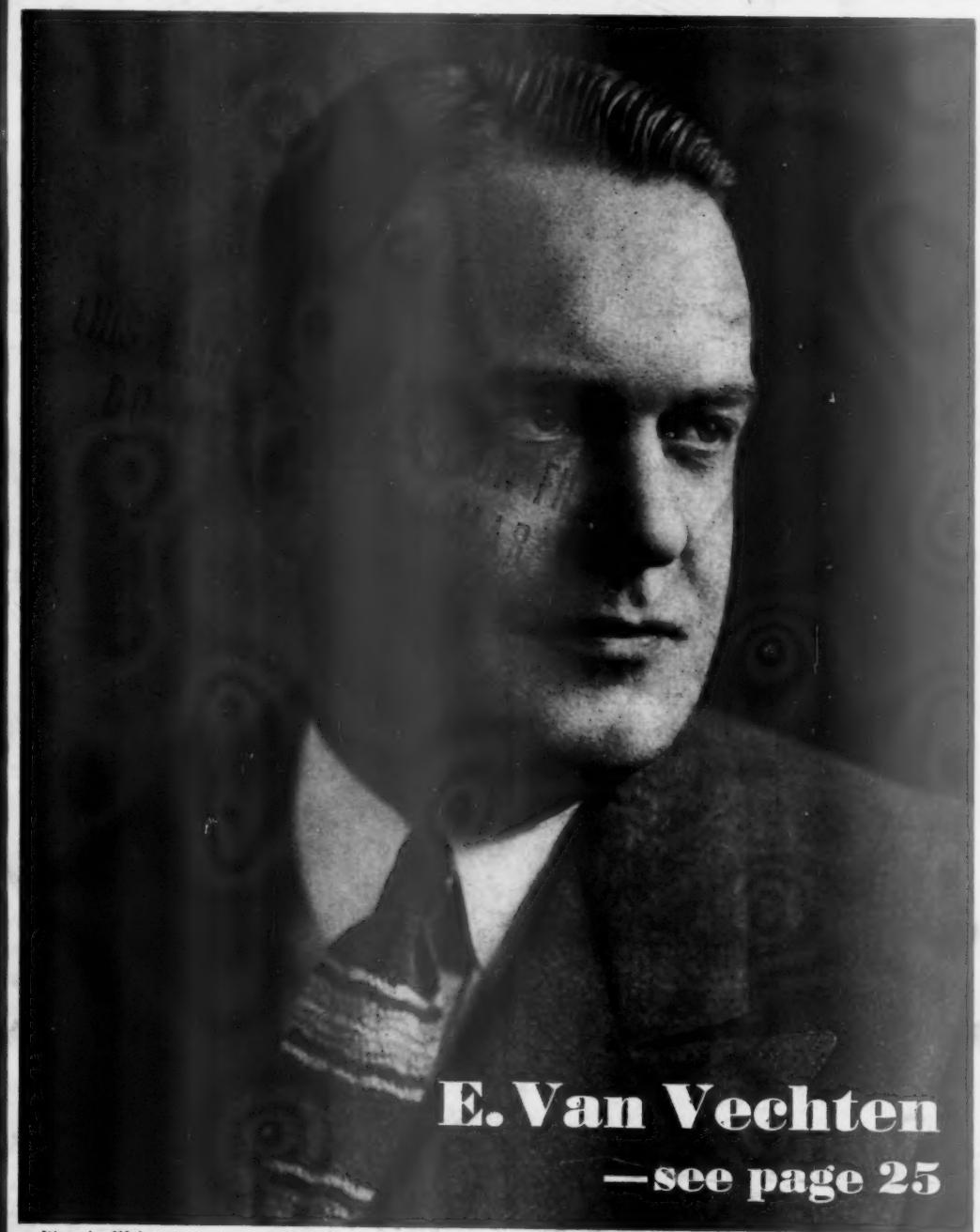


SINCE 1915 • THE NATIONAL MAGAZINE FOR PURCHASING AGENTS

PURCHASING



E. Van Vechten
—see page 25

VOL. VII No. 2

FEBRUARY 1939

ORDERS RECEIVED

throw an interesting
side-light on . . .

REPUBLIC PRODUCTS AND THEIR MANY USES

Every week thousands of tons of steel leave the many Republic plants—and identity is lost. Where it goes and what it does throws an interesting side-light on the diversified uses to which the many Republic products are put.

An order for plates which, after fabrication, will breast the ocean waves in a new ship. Rail carbon tubing to be used as the framework of display signs. A farm equipment maker orders forging steel for tractor parts. A quantity of engine bolts to a railroad for locomotive rebuilding. An order for quite a quantity of UMA treated chrome molybdenum steel to be made into wrenches. Tin plate to be used for the tops and bottoms of cleaning powder containers. Heavy tonnage of special ternes shipped to a paint manufacturer for lead kegs.

Special alloy rounds ordered by a maker of seamless tubes. Galvanized sheets for dust collecting equipment. *ENDURO Stainless Steel sheets for cooking utensils and ice cream cabinets. Hot rolled carbon bars for wheelbarrows. Hot rolled copper-bearing sheets for transformer cases. Cold rolled alloy strip for the fan spider of a quality automobile. Stainless steel wire to bring safe steering wheels to motorists—without rust. Double strength steel to a fabricator on a repeat order for a large city's garbage trucks.

If you use steel in the manufacture of your product, there is a Republic product that will aid you—to improve its quality—to make it more efficiently—to cut your costs—to improve your profit margin. Let a Republic steel step out—and help you.

REPUBLIC STEEL

CORPORATION

GENERAL OFFICES • • CLEVELAND, OHIO

BERGER MANUFACTURING DIVISION • NILES STEEL PRODUCTS DIVISION • UNION DRAWN STEEL DIVISION
STEEL AND TUBES, INC. • TRUSCON STEEL COMPANY

*REG. U. S. PAT. OFF.



When writing Republic Steel Corp. for further information, please address Department EP



"I call it rubber even if you say it's plasticized polyvinylchloride"

A typical example of Goodrich product development

IT'S an odd substance which most users say they'd rather call "synthetic rubber" even if Goodrich chemists, who developed it, *won't*. It's elastic; it can be molded to shape; but it's made from limestone, coke and salt, was never nearer a rubber tree than cold cream to a cow; and it has to do things that rubber *won't* do because it costs more.

A good covering for electric cable because it's practically fireproof; has a hundred industrial uses handling chemicals and greases; as a coating for cloth it makes the cloth waterproof and gives it resistance to sunlight.

Koroseal (we call it) is only one of four or more elastic synthetics used by Goodrich in various kinds of products which most of us call "rubber" products. Each of these has some characteristic that makes it best for some one or more purposes.

Synthetics are so important that Goodrich has a "synthetics department" to adapt various types to Goodrich products, to carry on research, to help Goodrich customers and prospective customers solve hundreds of problems. Men in this department not only *know* synthetics but they are creating new knowledge

about them all the time. That's also Goodrich practice toward all industrial rubber products. It's the reason you are sure of the latest improvements and the greatest value if you specify **GOODRICH** to your distributor, whether you're interested in conveyor belts, rubber-lined tanks, hose—any mechanical goods of rubber or synthetics. The B. F. Goodrich Company, Mechanical Rubber Goods Division, Akron, Ohio.

Goodrich
ALL products problems IN RUBBER

PURCHASING

Established 1915 as "The Purchasing Agent"
Consolidated with "The Executive Purchaser"

PURCHASING is an independent journal, not the official organ of any association. It is the only publication of national scope devoted exclusively to the interests and problems of the purchasing executive in industry and government.

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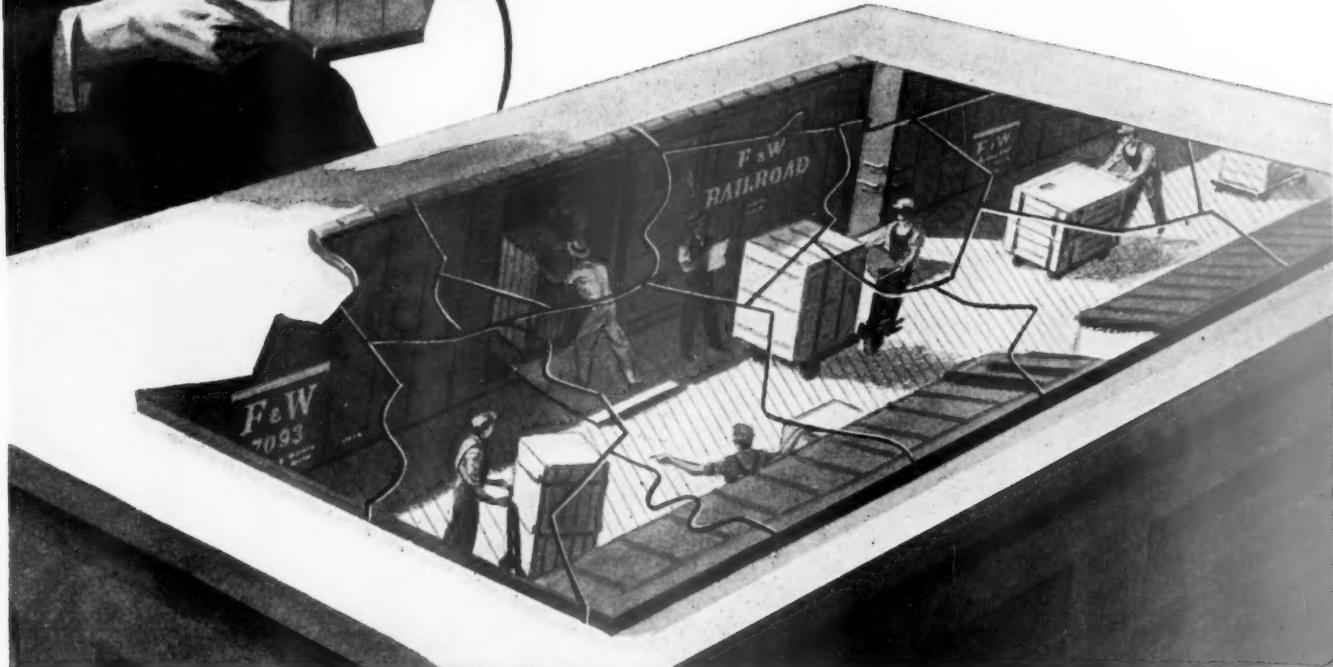
February 1939

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PURCHASING



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Yours on Request

Purchasing agents will find it well worth their while to read the publications reviewed on this and the following pages. From among the many submitted to us, they have been selected by the editors as having greatest interest and utility value to purchasing agents.

To obtain copies, simply fill in and mail coupon at the bottom of this page.

524. The new 60-page wire-bound catalog released by Rhode Island Tool Co. includes detailed tables showing dimensions and prices for its complete line of bolts, nuts, screws and studs of many types. Numerous special tables show decimal equivalents, U. S. standard threads, pitch diameter and tolerances of threads, weights of steel, etc.

541. In easy-to-find indexed form the Scully Steel Products Co. presents a heap of information of value to all buyers of steel via its new, comprehensive Stock List and Reference Book, which gives a long list of Scully Products, such as sheets, bars, angles, wire, stainless, eaves trough, copper and brass. Also contains many handy reference tables including standard gauges, length of rivets necessary for various grips, weights of steel circles, circumferences and areas, U. S. gallons in round tanks, U. S. gallons in rectangular tanks, etc.

550. Containing 66 pages, the new Operators Handbook on truck, bus and farm and industrial tractors, just published by B. F. Goodrich Co., features a table on the effect of load and speed on tire service, with percentages of recommended maximum loads at maximum sustained speeds to obtain normal tire service. Among the subjects discussed are: how to prevent truck tire failures, including the heat-speed problem; development of the new Goodrich Hi-Flex tire cord and its relation to the heat-speed problem; methods of correctly calculating truck tire costs; load analysis, load and service diagrams, load ratios and inflation pressures; specifications and data for tires for all commercial uses.

597. The new KIMPAK portfolio prepared by Kimberly-Clark Corp. presents actual samples of this light and resilient crepe wadding material in a range of thicknesses from single sheet to 20 ply, standard and backed with a tough sheet of kraft. The distinctive features—soft, snowy whiteness that lends an air of rich luxury to the merchandise packed in it, as well as its outstanding protective qualities—are readily visualized, and a number of representative photographs show its use in connection with fragile toiletries, highly polished surfaces, fine furniture, and other types of products.

608. Illustrating the philosophy that an industry can best serve its employees, its stockholders, the users of its products, and society in general, only through continuing a well organized program of research, the Crane Co. has issued a handsomely illustrated 48-page book, with plastic spiral binding, describing its new research laboratories, occupying 86,000 square feet of floor space and employing a staff of 285 persons. The wide range of subjects that are under constant study is indicated by the variety of special departments, including metallurgy, welding, radiography, industrial products, ceramics, sanitation and hydraulics, heating and air conditioning, basic sciences, photography, design and development.

PURCHASING, 11 West 42nd St., New York, N. Y.

I wish to receive the following literature:

Numbers: _____

Name: _____

Company: _____

Address: _____

City: _____ State: _____

PAGE 4

609. Devoted exclusively to Visible Record Equipment is a new catalog issued by the C. E. Sheppard Co. In its 40 pages, 8 $\frac{1}{2}$ " x 11", are illustrated both automatic shift and non-shift types of binders, and a wide range of new stock forms—for accounts receivable and payable, purchase, inventory and stock keeping, prospect and sales records, personnel and payroll records, and the like.

613. Exceptionally attractive and informative is the new catalog and data book of the Parker-Kalon Corp., presenting a comprehensive line of self-tapping screws, patch bolts and repair plugs, metallic drive screws, welding studs, masonry nails, screw nails, wing and cap nuts, thumb and socket screws and related items, including both the standard slotted head and the Phillips recessed head design. 68 pages, 8 $\frac{3}{4}$ " x 11 $\frac{1}{4}$ ", loose leaf style with spiral binding, the entire catalog is printed in two colors, with a wealth of diagrammatic and photographic illustration which makes for complete clarity; conveniently arranged and indexed. Tables of dimensions and weights, and recommended operating data are also included.

621. A handsome new 28-page book on Ryerson Certified Steels pictorially explains why every one of the steel and allied products carried in Ryerson stock can be depended on to represent the highest quality in each particular class and type of material. The special certified Alloy plan is explained in detail, showing how heat-treating costs can be substantially reduced while producing more uniform and more dependable results. Included is a digest of standard and special alloys, along with general hints on heat-treating.

627. McKenna Metals Company has issued a new 24-page catalog, designated as Catalog No. 2, devoted to Kennametal steel and metal cutting tools and blanks. Manufactured in three grades of hardness for varying applications, the tool blanks are brazed to steel shanks with copper or bronze to make tools for turning, boring, facing, milling, keyway cutting, reaming, etc., of steel, monel, malleable and cast iron, brass, bronze and aluminum. The catalog contains specifications and price lists on various sizes on blanks and tool styles, also a section devoted to proper selection and application, grinding, etc.

628. Installation and replacement of oil seals on heavy equipment and in inaccessible locations has been reduced from a major job involving long and expensive shutdowns to a simple and inexpensive operation without dismantling the machine, by means of the Garlock Split-Klosure, a patented oil seal applied by placing it around the shaft like an ordinary packing ring instead of sliding it over the end of the shaft. A new 12-page bulletin describes this development and its application, with sectional diagrams of typical installations, and instructions for ordering and use.

629. Catalog H.G.501 of the Quigley Co. is devoted to Hytempite, a plastic, air-setting, high temperature cement for bonding fire brick and shapes with thin, strong, air and gas tight joints, for building monolithic Gas-Tite baffles, and for quick furnace repairs, either hot or cold. It retains its strength up to temperatures at which standard fire brick soften and fail, yet permits expansion and contraction of the bonded structure. The 20 pages of this catalog, attractively printed in two colors, show more than fifty photographs of installations in a wide variety of industries throughout the world.

630. Bulletin H-1 illustrates and describes the new Hill hydraulic horizontal grinder, latest addition to the line of heavy duty precision surface grinders produced by the Hill Clutch Machine & Foundry Co. In six pages, four of which are devoted to illustration, salient features of the new machine are shown. Powerfully built for heavy service, it is distinctly a precision tool, equipped with unusually large head slide bearing surface which insures rigidity and permanent accuracy.

(Additional listings on pages 6 and 8)

PURCHASING

America's Typists are Swinging to Remington

OUR
CHOICE



THE NEW REMINGTON NOISELESS *Writing Perfection with Silence*

In this, the 1939 model of the Remington Noiseless, more than ever are emphasized those factors which make for speed, comfort and convenience, in addition to QUIET. Here is the one machine that will do everything demanded of a typewriter not merely better, but quietly. In the general office, the private office, the stenographic department, thinking and working are best done in an atmosphere of quiet . . . and it is here that there is no substitute for the Remington Noiseless.

For correspondence of the better sort, for matchless printwork, for manifolding and stencil cutting par excellence . . . for conserving and improving the nerves, dispositions and abilities of the operator, executive and all within hearing, the Remington Noiseless is supreme beyond all question. It is the world's finest writing machine and one reason why America's typists are swinging to Remington.



THE REMINGTON 17 *The Completely New Typewriter*

With this Model 17, the one and only typewriter that is completely new, Remington steps into unquestioned leadership in the field of the so called "standard" machines. In this classification, no other typewriter has so many wanted features, so many exclusive improvements, so many obvious advantages. In no other typewriter will you find the interchangeable carriage, that enables one Model 17 to do the work of several wide carriage machines. In no other typewriter will you find such a smooth, easy moving carriage, such a feather-light shift, a jam trip for preventing soiled fingers and broken nails . . . a so completely satisfying touch regulator . . . in a word, so many conveniences for the comfort and advantage of the user. This machine is truly an engineering achievement; and another reason why America's typists are swinging to Remington.



With seven interchangeable carriages . . . an exclusive Model 17 feature . . . this one typewriter, instead of several, will do all your wide form work. No other machine can so quickly and easily be converted to take paper up to 31 inches wide. Here is a very real saving both in capital investment and in floor space.



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To obtain copies, simply fill in and mail coupon at the bottom of this page.

631. Seven new gauges—comparator, internal and external comparator, thread pitch diameter, super sensitive comparator, continuous measuring, adjustable snap gauge and Arnold automatic grinding gauge—as well as new indicator improvements in a comprehensive line of precision measuring instruments, are described in Catalog No. 38 of the Federal Products Corp. Practically every standard industrial requirement in this line can be found in this attractive and profusely illustrated 64-page book, and various modifications are suggested to adapt the equipment to special uses.

632. Tying in with the extraordinary merchandizing opportunities afforded by public interest in the New York World's Fair 1939, the Fair officials have issued a catalog of manufacturers and products licensed to use the distinctive emblem as a part of their design. Running the gamut from apparel and accessories to textiles, toiletries and toys, the catalog is calculated to be of great assistance to the progressive merchandizer in connection with the Fair season.

633. The new general catalog (41st Edition) of The Billings & Spencer Co. lists literally thousands of wrenches and forged tools in carbon steel and the new Billings Vitalloy. Distinctly a working record, the line is concisely and clearly presented in a pocket size booklet, 104 pages, fully illustrated and with complete dimensional tables.

634. Concentrating the experience of 55 years of successful design and manufacture, the 12-page catalog of The National Pipe Bending Co. presents a representative line of feed water heaters, storage heaters, instantaneous heaters, fuel oil preheaters, coils and bends of pipe and tubing and seamless spun kettles, pails and dippers of brass. One page is devoted to a general data list of particular value in ordering coils and bends.

635. Bulletins B-420 and B-430 of the Yarnall-Waring Co. are devoted to blow-off valves for low and medium pressure boilers and for high pressure boilers, respectively. Each booklet contains 24 pages, printed in color, and thoroughly illustrating design, construction and application. Incorporating a number of recent improvements, these bulletins replace previous publications regarding Yarway products.

636. Bulletin H of Day-Brite Lighting, Inc. presents a variety of fixtures for fluorescent lamps, the recently developed light source that has gained wide and enthusiastic acceptance for its efficiency and decorative possibilities in showcase lighting, lobbies, offices, reception rooms and public buildings. Special fixtures for mirrors, bank screens, etc., are also shown.

PURCHASING, 11 West 42nd St., New York, N. Y.

I wish to receive the following literature:

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Company: _____

Address: _____

City: _____ **State:** _____

637. Any conceivable item of welding and cutting apparatus and supplies can be located in Catalog No. 22 of the Air Reduction Sales Co. Complete outfits, torches, radial machines, regulators, manifolds, tips, adapters and attachments, couplings and splicers, cylinder trucks, welding rods, and seven special fluxes for various conditions of welding and brazing are illustrated and described in this 32-page catalog.

638. A new leaflet, No. 2326, issued by the Switchgear Division of Allis-Chalmers Mfg. Co., introduces two new models of rocking contact voltage regulators for small a.c. generators. Concise without sacrificing completeness, the bulletin contains photographs and a wiring diagram as well as a description of the moderate cost equipment.

639. The 1939 catalog of Black & Decker Mfg. Co. presents the most complete and up-to-date line of portable electric tools and accessories ever offered by this manufacturer. Comprising 56 pages and cover, printed in color throughout, the new catalog attractively displays latest improved models of familiar tools, and introduces three new units—the $\frac{3}{16}$ " Hornet drill, a small and light weight production drill; the $\frac{5}{16}$ " ball bearing utility drill; and a new portable electric ham-mer.

640. A new 8-page illustrated bulletin issued by Joseph T. Ryerson & Son, Inc., explains the unique physical structure of Glyco Babbitt, with its resulting perfect homogeneity and uniformity of quality—two prime characteristics of a good bearing metal. Micro-photographs and illustrations of fracture samples bear out these claims. Recommendations for the applications of various grades of this stock material are also included.

641. Stressing the principle that accurate results can be obtained by a machine only when accuracy has been built into it, the 1939 catalog of the Dumore Company sounds the theme of precision in a comprehensive line of grinders, including both bench type and hand models. In this line the unit of measure is not a thousandth of an inch, but a ten-thousandth. Dozens of dimensions in each grinder are controlled to this tolerance. Balancing is by high-speed dynamic tests, piece by piece as well as in the complete assembly. Motor windings are pre-expanded and sealed. Even the belts are held to close standards for uniform weight and thickness to avoid variations in tension or inertia. The 24-page catalog, well illustrated and attractively printed in color, features photographs of actual service installations.

642. Bulletin DMF 765 of the Foxboro Co., illustrates the new Potentiometer Indicating Recording Controller and fully explains the mechanism and operating advantages of this new instrument, which incorporates for the first time in this type of instrument the rotating contact control system.

643. Four ways to prevent freeze-ups in sprinkler and standpipe systems provide the theme of a new 6-page circular issued by the Rockwood Sprinkler Co. Illustrated with photographs and diagrams, it shows the application of this protective equipment under various conditions of use.

644. Two new bulletins on power industrial trucks are being distributed by the Elwell-Parker Electric Co. The new trucks both have a rated capacity of 10,000 lbs., and are equipped with identical power plants and a controller which allows for four speeds forward, four reverse, and dynamic brakes. All steering levers are located above the axle for greater clearance and accessibility. The two types—low lift platform truck and high lift—are covered in Bulletins A-8416 and A-8459, respectively.

(Additional listings on pages 4 and 8)



Plug Disc Valves for Hard Service



You don't come across valves like the Crane 1 1/2 P very often—the ideal valve for all-around use in most any plant. Backed by Crane experience and Crane engineering, this brass plug disc valve is

built to do the kind of work that takes the life out of ordinary valves in short order.

Use the 1 1/2 P in any service up to 150 pounds S.W.P. at 450° F. Use it in any position—for throttling or, where frequent opening and closing are necessary—on soot blower, blow-off, boiler feed, drip, and drain lines. Wire-drawing is hardly a threat to its sturdy plug-type seat and disc construction designed to stand the gaff of really tough service.

Your Crane Representative can give you full details on the 1 1/2 P.

"HERE'S ONE THE STOCKHOLDERS OUGHT TO LIKE"

Men who buy or use valves are obviously familiar with them. That very fact, however, may lead to oversight of the fine shades of quality in valve design and construction. A valve may seem like a small item—the loss caused by an inefficient one, small too. But multiply this loss by the hundreds, perhaps thousands of valves on your pipe lines and the aggregate may easily affect the profit and loss statement.

Crane valves are engineered to stop

even the small losses. The extreme accuracy of their manufacture and the careful analysis and specification of the materials that go into each part assure long, economical service and few time-wasting replacements.

Regardless of what your piping problem may be—regardless of how specialized your field—you will find the valve you want in the complete Crane catalog which includes more than 38,000 items. Consult the Crane representative regarding valves and fittings to meet your particular requirements.

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To obtain copies, simply fill in and mail coupon at the bottom of this page.

645. The new catalog of the United States Grinding Wheel Co. is a 32-page booklet listing a very complete line of grinding wheels, abrasive grain, mounted wheels and mounted points. Specially featured are Altonite, a general purpose grain suited for both low and high tensile strength materials, and the Baby Giant cut-off machine, recently developed, for use on hard and soft metals, high speed and tool steel, tile, terra cotta and resinoid materials, with a cut capacity 1" deep and 4" long.

646. Eight pages of compact and practical information on car pullers, hoists and winches, with engineering data on the selection of the proper equipment to meet given conditions most effectively, comprise Catalog 7738 of the Stephens-Adamson Mfg. Co. It is completely illustrated with photographs and diagrams, and attractively printed in color.

647. A 4-page folder issued by the Jacobs Bros Co. presents salient features concerning the Post-O-Meter automatic computing parcel post scale, and an impressive list of representative concerns who are using it for greater accuracy, speed, convenience and economy in their mailing room operations. Photographs of typical installations are shown.

648. "Hacksaw-ology" is the title of a helpful new booklet on the care and use of hacksaw blades, with suggestions for their proper and efficient use in either hand or power machine operation, and illustrated descriptions of the various types of blades available. This 24-page, 6 x 9 inch booklet is distributed by the Simonds Saw & Steel Co.

649. A new 4-page illustrated folder of the Stanley Electric Tool Division introduces the Stanley Contour Grinder No. 150, a new high speed grinder for use by tool and die makers in finishing dies, gauges, templets and special shapes. The $\frac{3}{8}$ H. P. motor is mounted directly below the 12" x 12" work table, in a holder that is adjustable from 90° to 45°. It operates at a speed of 18,000 rpm. The mounted point, wheel or rotary file projects through an opening in the table top. An adjustable light and a complete assortment of accessories are included.

650. The 52-page catalog of the Addressing Machine & Equipment Co. is packed with a complete and money-saving listing of reconditioned office machines and accessory equipment, duplicating and mailing room machines, dictating and calculating devices, and the like, a quick and convenient reference book for the buyer justifying its description as a "Permanent Business Show of Office Machines."

PURCHASING, 11 West 42nd St., New York, N. Y.

I wish to receive the following literature:

Numbers: _____

Name _____

Company _____

Address _____

City _____ **State** _____

651. Heavy duty truck and bus and Diesel starting batteries are described in a new 8-page catalog section issued by the B. F. Goodrich Co. It explains the construction of the battery line, with illustrations, and gives complete specifications and plate dimensions on each of the batteries offered for a specific service.

652. A turbine, in the 100 to 2000 H. P. range, manufactured for every type of industry using mechanical and electrical power, is described in a new booklet released from the Westinghouse Electric & Mfg. Co. The design is flexible enough, through selection of proper number of stages, governor and control, to give maximum efficiency and reliability. The turbines give 1000 to 5500 rpm, and are for steam pressures up to 650 pounds, temperatures to 750°F, exhaust pressures to 200 pounds, vacuum to 29 inches mercury, and extraction pressures to 200 pounds. The booklet contains 22 pages, fully illustrated, in double size conveniently folded for standard filing.

653. A new specification sheet covers the motor-driven revolving spindle headstock now available from Brown & Sharpe Mfg. Co. as an attachment for use on the company's No. 10 cutter and tool grinding machine. It is furnished complete with motor, switch and wiring, and is intended for installation on the machine at the factory.

654. The December issue of "Current Notes," issued by the Electrical Testing Laboratories, is a special number for general circulation, and presents a description of the company's new eight-story building and its equipment. Arranged as a progressive floor-by-floor trip through the new plant, it covers the various departments—high voltage, chemical, photometric, lamp performance, etc., as well as general service departments and facilities.

655. Aluminox abrasive and polishing grains and flours are discussed in a new 14-page booklet of the American Emery Wheel Works. In addition to tables of grain sizes and selection for various applications, there are useful sections on adhesives and setting-up methods, special treatments, and special uses such as pressure blasting, safety treads, tumbling, etc.

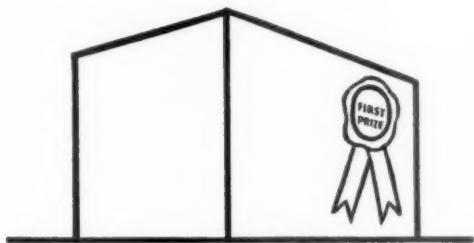
656. "Short Cuts in Shipping" is the first of a series of informational folders now being distributed by the Ames Bag Machine Co., devoted to modern methods evolved for the efficient and economical shipping of odd-size machinery and small parts, and replacing antiquated packing methods that are responsible for the loss of thousands of dollars annually in shipping rooms. The first folder is now available, and subsequent issues will automatically follow to those readers interested in having their names placed upon the mailing list.

657. Catalog No. 82 of the Ludlow-Saylor Wire Co. is a complete treatise and reference book on wire cloth and woven wire screens in all grades and weaves, of all commercial metals and alloys, and for all purposes. Its 72 pages, conveniently assembled with plastic spiral binding, contain a wealth of information on the selection and characteristics of standard and special constructions, illustrations, and dimensional tables. Featured is Super-Loy, an economical steel for heavy-duty applications.

658. A modest folder with an important announcement for the industrial paint user introduces a new line of patented odorless finishes, products of the Brown-Lindsay Paint Co. The convenience and practical value of this method, which can be applied without danger of contaminating perishable products such as foods, and without disturbing normal working conditions, will be recognized in many fields where such maintenance operations have heretofore presented serious difficulties.

(Additional listings on pages 4 and 6)

For Better Boxes



Corrugated boxes combined by the Stein-Hall Starch Combining Process are better boxes for you because they are stronger and lighter than when made by any other method. The bond between the corrugations and the liners is definitely stronger. The weight of the finished box is definitely lighter. Now you can enjoy these desirable features of lightness and superior bond in YOUR shipping containers and still meet all your particular requirements. Boxes made by this Process may now be obtained from many leading corrugated box manufacturers. For a complete list of their names write to any one of the companies named below.

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STEIN, HALL MFG. CO.
Chicago, Illinois

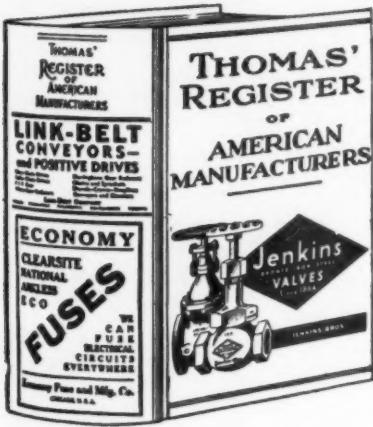
CLINTON COMPANY
Clinton, Iowa

A. E. STALEY MFG. CO.
Decatur, Illinois

PENICK & FORD SALES CO.
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TR has in excess of 15,000 factual descriptions from manufacturers.

¶ A-Z Blue Section—Instantly shows home office of any concern, or nearest branch office; also its affiliated and subsidiary concerns.

¶ A Capital Rating for Each Name—One of its many valuable features. *The capital ratings are often useful in making the selection desired, either when buying or selling.*

¶ Locating Successors to Discontinued Concerns

Being able to promptly secure a replacement part often saves many times the cost of the part.

¶ Generally Useful to Everyone

Write for details of thirty-day offer.

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and all others having to do with investigating, buying, specifying, or who require names of American Manufacturers in **any line**, for **any purpose**.

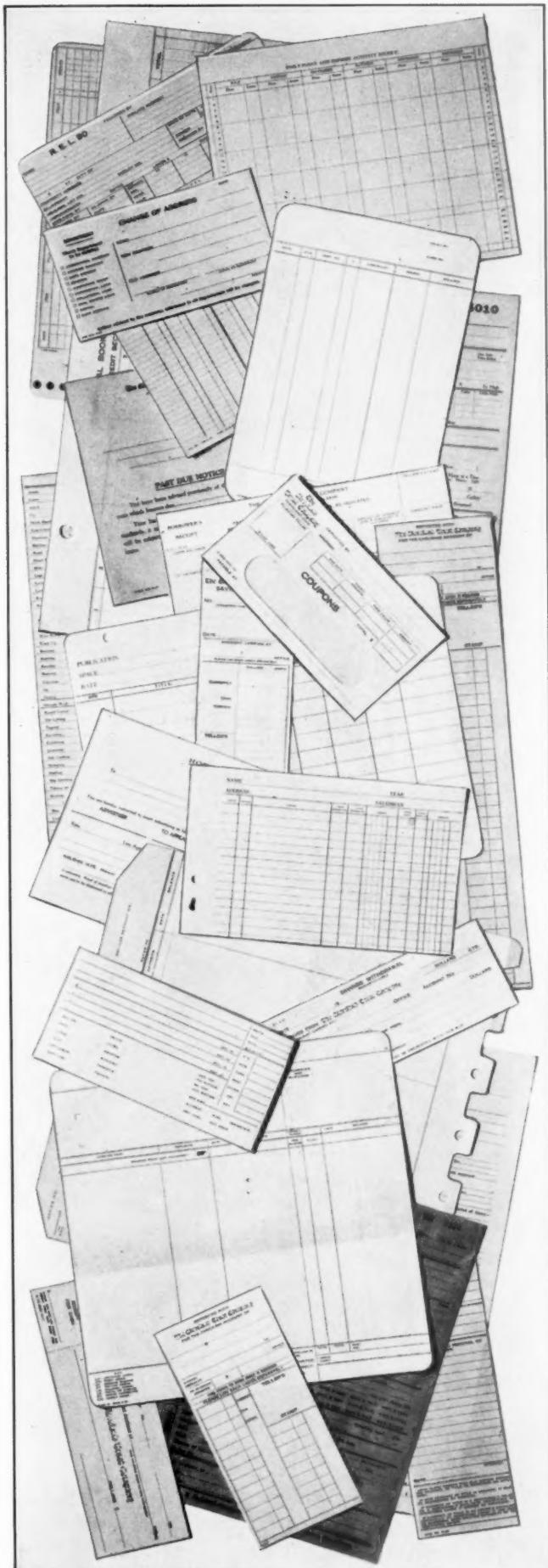
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- 1—**TO INVESTIGATE** a number of sources of supply which will assist him in making the most economical purchase.
- 2—**TO ADD** new names to his present list of sources of supply.
- 3—**TO VERIFY** his present prices and bids—thus insuring an economical purchase for all requirements.
- 4—**TO MORE QUICKLY LOCATE** sources of supply for requirements which are new to his department, thus saving the time lost in referring to numerous catalogues.
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- 6—**TO RECALL TO MIND** products previously presented by a salesman or through an advertisement.

TRY THESE SUGGESTIONS ON YOUR NEXT PURCHASES—WE FEEL CERTAIN YOUR SAVINGS WILL BE SUBSTANTIAL.

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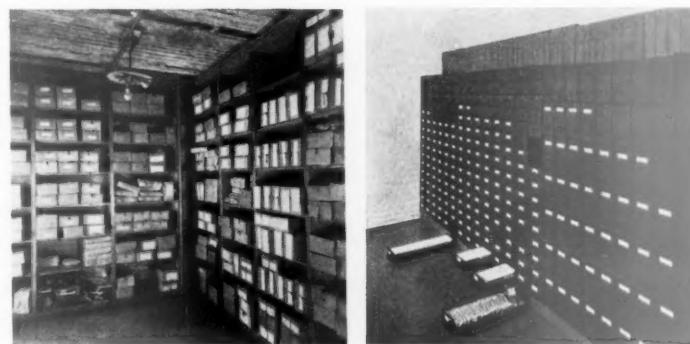
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Steel Storage File
To Fit *Any* Size Form

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From any standpoint, SAFE-T-STOCK Steel Storage Files are best. They are made of heavy weight, welded steel yet they cost less than flimsy cardboard boxes and shelving. They resist fire, dampness and rodents. Storage space is reduced to a minimum because files fit their contents.

The ingenious SAFE-T-STOCK feature permits stacking and locking of files to any convenient height without danger of falling, tipping or shifting. Removable follower blocks solve the problem of partially filled drawers.

If you have a record storage problem, ask us how we can help you solve it economically.



Before and after SAFE-T-STOCK Steel Storage Files were used in one of the record storage rooms of a large Cleveland Bank (name on request). This bank has standardized on our files.

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Originators of Steel Storage Files

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Most purchasing agents are skilled at comparing prices. But the comparison of quality often brings some uncertainty.

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F. O. B.

(Filosofy of Buying)

WE'VE BEEN HEARING a lot these days about inventory control. Our esteemed contemporary, *The New Yorker*, recently happened on a textbook called "Problems in Accounting," by Windsor Arnold Hosmer, used to enlighten the earnest young men at the Harvard Graduate School of Business Administration. The author, casting about for a good example of controlled inventory, was impressed by the system employed by McKesson & Robbins, and wrote admiringly (p. 191): "The chief executives of McKesson & Robbins regarded inventory control as one of the important problems involved in the proper operation of their business. Emphasis in this respect has been placed upon personal supervision, but the comptroller believed that the accounting department could prepare data which would be useful in judging results achieved." *The New Yorker* adds, with tongue in cheek, "McGraw-Hill publishes the book and sells it to the general public for \$5—just in case you've been having any trouble controlling your inventories."

portions broke out in Philadelphia, and a special meeting of the Philadelphia Association of Petroleum Retailers was called to find the remedy. The debate raged for two hours as to which of two alternatives would be the more effective policy—to cut the retail price of gas to $12\frac{1}{2}$ cents, or boost it to $16\frac{1}{2}$. The bout ended in no decision.

SEVERAL readers have called our attention to Paul Talbot's column, "The Back Yard," on the last page of United Business Service for January 21. Mr. Talbot cites an article by General Manager F. E. Schuchman of the Homestead Valve Mfg. Co., Coraopolis, Penna., on the subject of "Buymanship," which voices sentiments so identically agreeing with his own that he is tempted to go British and shout, "Hear—hear!"

Mr. Schuchman comments on the amount of money, brains and energy constantly being poured into the art of selling, contrasting this with the comparatively small amount of effort devoted to buying. He lists four major evils, with suggested remedies: (1) the order from the front office, "Buy nothing until further notice," to be replaced by a sign reading, "The Management pledges itself to buy any equipment or service which will pay for itself in two years;" (2) the executive who dares the salesman to come into his den and be slaughtered, to be replaced by a buying executive trained in the art of drawing out the maximum of information and suggestions from salesmen; (3) the stalling tactics which make salesmen waste thousands of hours, to be replaced by an order from the front office to see salesmen promptly, get the facts, and decide whether to buy or not to buy without unnecessary and wasteful delay; (4) restricted

An ebullient reporter on the Salt Lake City *Telegram* reports N.A.P.A. Vice President Jack Meyer of Portland as predicting "a spending spree Purchasing Agents will let loose and spend like drunken sailors this year." Well, business *is* looking up, but those words, we fear, are not found in the bright lexicon of scientific purchasing.

Fo. b. has an abiding interest in the economics of price as an instrument of distribution, and is constantly forced to the conclusion that it is still considerably short of being an exact science. Last month a retail gasoline war of major pro-

calling hours for salesmen, to be replaced by "The Golden Rule of Good Buymanship—Do Unto Others' Salesmen as you would have Others do unto your Salesmen."

All of which has a very familiar ring. So familiar, in fact, that most buyers will not even take the trouble to resent it. For this is not really a treatise on "Buymanship." It is just another example of the ever-present sales energy at work—"A Salesman's Idea of How to Buy." For the other side of the picture, we refer you to James F. Best's article in this issue, which might have been titled, "A Buyer's Idea of Salesmanship." The true situation is somewhere in between, and progress toward better business relationships lies in mutual understanding and cooperation, as Mr. Best points out.

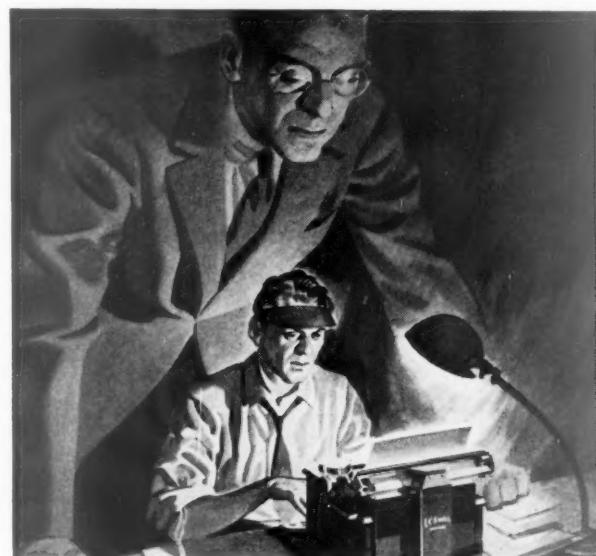
Incidentally, we have before us a copy of the form distributed in the waiting room of Homestead's purchasing office. We are told that cigarettes are provided to help while away the necessary but wasteful waiting hours, and a very ingenious sales twist is inserted by appending a list of Homestead products and inviting the visiting salesman to improve his time by checking those items which his own company could use to advantage, to be passed along to the sales department.

WHILE WE ARE quoting from our fellow columnists, we may add one more observation, culled from the "Copy Cub" of *Advertising Age*: "Most purchases, H. W. Fortey told the Technical Publicity Association, are made on the basis of impressions rather than facts. That's why salesmen were born."

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It means buying your typewriters out of your own pocket

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...and you get paid at piece work rates...and paid only for what you can *make your machine produce*.

* * *

and, Mr. Executive, a recent survey, in every city of 100,000 population or more, proved *this fact*:

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BY COURT REPORTERS THAN
ALL OTHER MAKES COMBINED**

L C SMITH & CORONA TYPEWRITERS INC



SYRACUSE NEW YORK

1939

similar to

1936

?

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IT IS purely and simply conjecture! BUT—from an unbiased analysis of the facts, and an appraisal of what the future has in store, it appears that we might expect 1939 similar to 1936.

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WHY NOT send for a copy of this chart which we will mail—gratis—with a complimentary issue of our January analyses and price forecasts for 75 basic commodities?

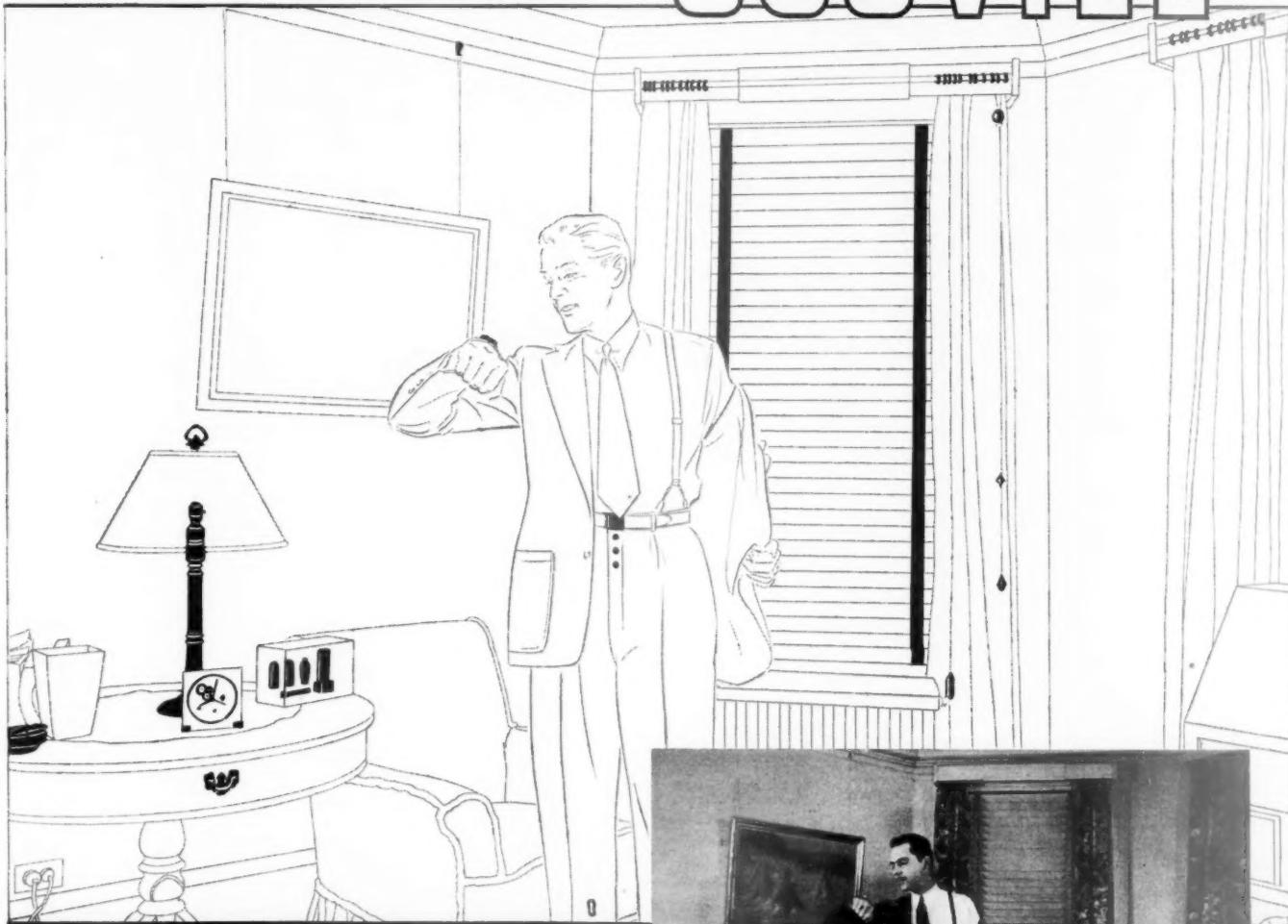
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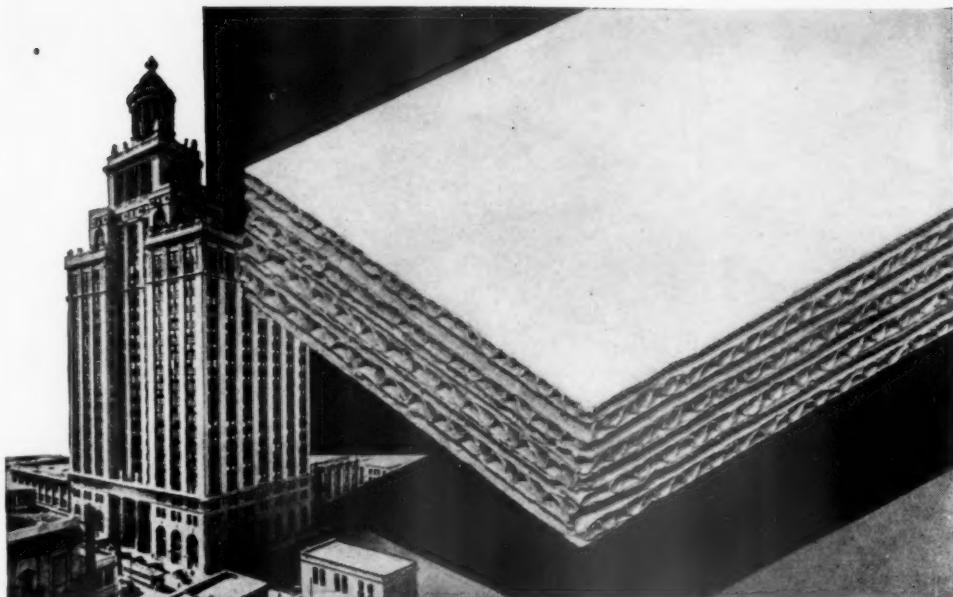


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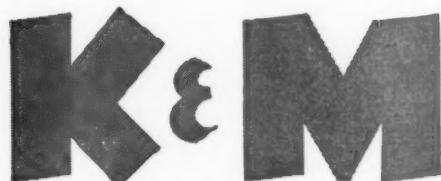
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In this fine Southern building, designed to bring year-round comfort to its occupants, York air conditioning and K & M insulations work hand in hand. Helping to maintain the desired temperatures, more than 34,000 square feet of K & M Air Cell Sheet insulation encases the air ducts. K & M materials were selected for their proved efficiency.

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LARGE MFG. CO. SECURES DEFINITE SAVINGS

The Production Department of a leading manufacturer had been having fabrication difficulties with warehouse material. When improvement was urged, the Purchasing Department turned to Ryerson Certified Steel. The Production Department now reports lower costs and complete satisfaction.

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A large motor plant reports the Ryerson Certified Steel Plan helps them in two ways. First—when a certain heat treatment result is desired, they do not have to make preliminary tests of bars purchased. Second—they now check only one bar of a heat where before they ran tests on every bar received. This naturally represents a definite saving to them.

SHOP INSISTS ON BETTER STEEL

A contract shop quoted on a certain job with the customer furnishing the steel. They secured and completed the job, but took a loss on it because of non-uniform steel. The shop advised the customer that a higher price would have to be charged next time unless they furnished better and more uniform stock such as Ryerson Certified Steel.

USES CERTIFIED STEEL TO HELP SELL

One large company requested extra books on the Certified Steel Plan for use by their Sales Department, saying, "We believe that our own customers should know we are using Certified Steels."

HELPS SECURE QUICK GOVERNMENT OK

A company specializing in government aviation work finds Ryerson alloy steel test reports enable them to get quick approval of steel by government officials and inspectors.

- These are but a few of the many stories that come to us every day, proving the advantages of using Ryerson Certified Steels. Since this higher uniform quality can be purchased without increased cost, we believe it will pay you to concentrate with Ryerson. Remember the steel is in stock and Immediate Shipment is assured. Joseph T. Ryerson & Son, Inc. Plants at: Chicago, Milwaukee, St. Louis, Boston, Detroit, Cincinnati, Cleveland, Buffalo, Philadelphia, Jersey City.



RYERSON STEEL-SERVICE

The Cost of Low Inventories

FOR SEVERAL years past there has been a noticeable tendency on the part of business to push the responsibility for carrying stocks farther and farther back toward the source. The current policy of hand-to-mouth buying, thoroughly understandable in the light of generally weak and unsettled commodity prices, is only one incidental phase of this growing tendency, which is far more basic. With little danger of material shortages, with processing and transportation capable of greater speeds than ever before in industrial history, that policy has been a practicable one. There are some factors involved which tend to show that it has not been altogether a wise policy, nor conducive to stability in markets and in trade.

Purchasing counselors properly stress the cost of carrying inventories. Purchasing men properly select, as their sources of supply, producers and manufacturers who maintain adequate stocks, some going so far as to require certain minimum inventories earmarked for their own particular use. The point that is not always appreciated under such a set-up is that the cost of carrying stocks has not been eliminated—only transferred. Carrying inventories is as costly, even if not quite so risky, for the producer, and that cost must eventually be reflected in price.

For better or worse, our present social and economic system is committed to a strong-price policy, to an expanding use of goods rather than to frugality, and that system must be supported by a broadening of consumer purchasing power which comes only through profitable employment. Manufacturers as a group are keenly aware of this situation. They are constantly demonstrating their willingness to take any steps that promise to extend the use of their product and maintain operating rates on any reasonable basis. Unfortunately, the carrying of large stocks does not come under this category. There is no value being added to goods in the warehouse, and no additional employment except for a couple of watchmen.

When producers are manufacturing to stock, as many are doing today, the strong-price structure is weakened by oversupply, often to the point where profit margins vanish. The natural remedy—to curtail production—adds thousands to the roll of the unemployed and diminishes purchasing power. This is happening today in copper and zinc.

Not that buyers should "hold the bag," or buy simply for the sake of buying or to hold up any unduly high price structure. That would be completely unsound. But to a very considerable extent this is a matter of avoiding losses which affect the entire industry and its customers. Many buyers have painfully fresh memories of inventory losses incurred in the fall of 1937. It is an important fact, however, that buyers' inventories at that time were notably instrumental in tempering those losses both as to their abruptness and extent. It is hard to find the pure light of reason in a situation where one week's copper sales in October were greater than the total of the ensuing quarter year, where current sales are estimated as being only one-third of current consumption, and where the ownership of metal inventories has completely reversed itself twice in that short space of time.

As business gets under way upon an even keel, a more reasonable and balanced inventory policy will be at once the evidence of real confidence and a strong contributing factor to the building of that confidence which is so greatly needed. And it will be a far more satisfactory policy all around.

STUART F. HEINRITZ, EDITOR

PURCHASING—

not a Profession but an Executive Responsibility

FROM TIME TO TIME, purchasing agents refer to their work as "Our Profession." We have heard this phrase used both in private conversation and from public platforms by men holding high responsibilities. They have referred to it in respectful voice as an ideal—as the ultimate objective of all purchasing men. One man (in England) even went so far as to vision the day when the state would set up examinations which must be successfully passed before men could assume the responsibility.

When the writer first heard the words "Our Profession" used, he was impressed and flattered. To be compared with doctors, lawyers and engineers was pleasing indeed. He had not realized before what an important fellow he was.

Then doubts crept in. Truly he carried no responsibility to the public at large, such as professional men in the commonly accepted use of the term do. If he erred, his company suffered, and if he erred too often, another face would be found behind his desk. But no government body would investigate and condemn him, nor could it refuse him permission to follow his chosen work, for the profits or losses of his company are not under state control. If anyone were injured or killed because of equipment or material he bought, he'd be quick to place such responsibility where it belonged—on the company who sold it, or on those who used it improperly.

When he again heard the phrase he became irritated. Were not these speakers surrounding themselves with an aura they did not deserve, and with responsibilities which they should not and could not

The job of purchasing for industry loses no dignity or prestige by reason of a realistic rather than a wishful approach. It's the function and the accomplishment that count, not the title

JOHN P. SANGER

Vice President, in charge of Purchases
United States Gypsum Company
Chicago

assume? This in turn led to the thought, "What is our ultimate objective anyway?" The writer believes he has found the answer, and it is this: "*Purchasing is an Executive Responsibility.*"

In analyzing this question, let us first define the word "Profession." Webster's Unabridged Dictionary describes it as "*The occupation . . . to which one devotes oneself.*" If this is the definition which the speakers referred to had in mind, the writer has no argument with them. He believes, however, that they gave it a meaning closer to its commonly accepted use, which is substantially this: "*An occupation requiring exact knowledge, the lack of which will endanger the public at large. To protect the public, the state and other bodies have required those following such an occupation to become licensed after passing suitable examinations.*"

The dangers to public health and safety are apparent should improperly qualified doctors, dentists, pharmacists, lawyers, engineers or accountants be permitted to practice. Similarly, it can be seen why the church is unwilling that anyone

should preach its doctrine, and why colleges require that only properly qualified men teach.

Now there are engineers and accountants without state licenses. Many hold responsible positions—but for the purposes of this discussion they are termed "technicians" because they hold no public responsibility. This in no way lowers their ability—but it does limit their responsibility. The responsibility to the state is the reason for the respect given the phrase "A Professional Man." It is the unconscious effort to borrow the respect without the responsibility to which the writer objects.

There are other and more significant aspects of a "Profession" which it is well to mention here, for they point clearly to the objectives which we are discussing.

First, the making of money is not the measure of the success of the professional man or the technician.

Second, neither the successful professional man nor the technician need necessarily work through or develop other men. True, they must maintain the good

will of their clients and associates but they can do this alone. Their personal specific knowledge is their stock in trade.

Now let us turn to the phrase "Executive Responsibility" and examine it. Webster's Unabridged defines the noun "Executive" as: "Any person . . . charged with administrative or executive work, as . . . a business manager."

For the purpose of this article, let us clarify this definition further by describing an executive as: "One of those men in a corporation responsible to the President and the Board of Directors for the profit opportunities of that part of the corporation's activities of which he has charge."

This is an exact definition, and the writer deliberately makes it so. An "executive" in the loose sense of the word, is anyone responsible for the actions of others. For the purpose here used, the "executive" is one "charged with administrative work" by the controlling body (the President and the Board of Directors) of a Corporation.

Thus the sales manager is responsible for the selling of the company's product and the measure of his success is the profit which can be made with the volume and the price he obtains. The purchasing agent is responsible for the purchase of the equipment and material which the company needs, and the measure of his success is the profit which can be made with the values that he obtains. The production manager is responsible for the conversion of the raw material into the finished article and the measure of his success is the profit that can be made with the conversion costs he obtains.

Similarly, the treasurer, the chief engineer, the director of research, and the other executives of a company have their separate responsibilities, and the measure of success of each is the part which he plays in the making of a profit for the company.

Note the imperative requirement of the executive to make a profit. This is not true of the technician or the professional man. Their

requirement is to supply exact knowledge, and the executive carries the responsibility of the profit possibilities of such knowledge.

Note also that the writer has listed purchasing as an executive responsibility. It most certainly is one, for money can be made or lost as fast in this field of a company's activity as in any other. Yet in many companies it is the production manager or the treasurer or some other executive who carries this corporate responsibility among others. Why is this?

Because the purchasing agent in those instances is, in fact, a technician only. He supplies knowledge as to values, markets, etc., but he does not assume the responsibility for the profit possibilities of his actions.

Note further that the executive administers the work of his department. This means that he must work through others, and that to be successful he must build men. An eminent management engineer once described the executive function in these four words:

Analyze
Organize
Deputize
Supervise

These words point clearly to the requirement of the executive to work through others.

The two requirements noted, that of assuming responsibility for profit, and that of building men are the two main points of difference between the executive and the professional or technical point of view. It is the writer's belief that a lack of proper understanding of these requirements is handicapping many men in purchasing today.

The word "Profession" has appealed because of its requirement of knowledge. We should think clearly, however, as to what knowledge we require. All purchasing agents turn to their engineers, their lawyers and their accountants for advice and assistance. This is right and proper for it would be asking too much of them to carry all such technical information themselves. The knowledge that purchasing executives are paid for is knowledge of market trends, knowl-

edge of long pull values, knowledge of men; in brief, knowledge that enables them to contribute their share to the profits of their company.

Judgment is the word describing the use to which such knowledge is put, and a purchasing agent's judgment is subject to a most positive and definite test. If a profit ensues from his actions, his judgment is good. If a loss ensues, all the knowledge, effort and good intention determining the action are lost sight of, for the results show the judgment was poor.

There may be those who read this who will disagree with the writer's insistence that the purchasing executive's primary requirement be that of a money maker. They may point to the need of his creating good will for his company, yet is not that a part of money making? They may point to the government buyer, yet is not his function that of money-saving? Let us have no illusions. The making and the saving of money is the sole reason for our work.

There may be others who read this who will contend that the writer had no basis for claiming that those who used the term "Our Profession" sought to "borrow respect without responsibility" from it. There is a basis for their contention, for the speakers referred to undoubtedly had no such deliberate intent. The irritation did, however, lead to a chain of thought which the writer believes is most significant, namely, the defining of the difference between the point of view of the technician and the executive.

We need more of the executive point of view in purchasing. It is challenging indeed! It leads to the building of men, and there is no more difficult nor soul-satisfying accomplishment. It leads to the assumption of responsibility, which gives men gray hairs, enlarges their moral stature, and incidentally pays them more money. Above all, it leads to the placing of the purchasing responsibility where it belongs—among the other executive responsibilities of our corporations.



Some Quirks of the STEEL MARKETS

*Keeping abreast of the trends in steel
is more than a mere matter of statistics*

HAROLD A. KNIGHT

Metals Editor, *New York Journal of Commerce*

STEEL BECOMES MORE and more a tailor-made product, and in many respects becomes less of a staple and less standardized constantly. Heinz, with his theoretical "57 varieties," is a mere piker compared with the thousands of varieties of steel. Add one per cent tungsten and you have one kind of steel; add another per cent and you have still another steel, and so on *ad infinitum*.

The purchasing agent does not need to be a walking encyclopedia on the many variations of steel. He buys usually only a few varieties and can well specialize on those few which he does purchase. However, our well posted buyer will admit that he cannot know too much of the subject. By knowing the general characteristics of the steel markets he may apply himself more intelligently to his own purchasing problems.

This article purports to give some of these general characteristics and perhaps some interesting sidelights by one who has followed the steel markets for many years. A most striking illustration of judging steel markets correctly was afforded in early 1938. Steel wages were the highest in history, yet operations in late 1937 were tobogganing on slippery runways, the pace declining from over 90% in the summer to close to 25% at the close of the year.

On every hand it was being said: "Prices must come down." Yet there was so frequently the sup-

plementary remark: "But prices can't come down without a cut in wages." The argument was that steel makers could not make profits at lower prices, with wages still so topheavy. This sounded logical enough, and perhaps 75% of the interested observers believed this thoroughly.

Yet there were 25% who reasoned otherwise. They predicted a decided cut in prices while wages were being left intact. Modern times have not made out of date the famous remark of Carnegie that "steel is either a prince or a pauper, a feast or a famine." The wise steel-master realizes that he might as well become reconciled to certain periods when inks are red.

Factors Not on the Cost Sheet

In 1937 the steel industry was decidedly Government-conscious. The industry had been criticized for collusive bidding; those who had made fortunes on munitions in the war had been placed on the Governmental green carpet; the Government plainly stood on the side of labor in its bargaining with the steel employers; there were the threats of anti-monopoly suits; many of the "Sixty Families" were connected with the steel industry.

That the leaders of the steel industry saw the handwriting on the wall was illustrated when Carnegie-Illinois broke away from precedents and signed a year's agreement with the C. I. O. The independent companies did not follow and the

period was honeycombed with strikes among "Little Steel."

Thus our 25%, mentioned above, were not so sure that steel prices would not come down without wage cuts. More and more, however, was criticism leveled at steel prices which were called too high by economists and commodity observers. Prices of many basic commodities used in industry had come down sharply in price, such as copper, rubber, cotton, hides and chemicals. Finally on June 24, 1938, drastic cuts in virtually all steel prices were announced. *But wages were left unchanged.*

In other days, of course, steel prices and wages usually rose and fell hand in hand. Among the oldest wage agreements in the steel industry was that between employers and the Amalgamated Association of Iron, Steel and Tin Workers, whereby prices of steel at the first of the month should govern the wage scales for that month. But of course many precedents of the steel industry have been broken in these unusual times.

Price Patterns

In these uncertain times, however, there do seem to be some fairly good signs portending a general break in prices. Thus twice within the past year the same sequence of price events has taken place. First cold reduced and oiled sheets were reduced \$4 per ton; then came a reduction in galvanized sheets and then a more or less general reduc-

tion. This latest instance was in October, 1938. However, the "general reduction" in this instance applied only to light steel and did not spread to heavy. Moreover, the October reduction lasted only ten days, as common sense would dictate, since these October cuts without corresponding wage reductions were plain insanity.

Sometimes a price reduction, such as in cold reduced and oiled sheets is stated as due to cheaper costs of manufacture, yet the shrewd may speculate as to whether this is not the forerunner of a general reduction. No markdowns occur when steel demand is perfectly healthy.

Weak Sisters in Steel

There are certain steel items which are almost invariably weak in price, probably because of overcapacity. Such for instance are concrete reinforcing bars; fabricated structural steel, erected; and probably galvanized sheets. In several of these items it does not take so very much skill and plant investment for their manufacture. After the war several shipyards went into the fabrication of steel, for instance. Concrete reinforcing bars do not need to stand much strain and do not take a high quality of steel.

Thus when the purchasing agent reads occasionally in the steel trade

journals of market weakness in these proverbially "weak sisters," he must not necessarily conclude that the steel markets generally are weak, yet if such reports are persistent and frequent it may be time to look for a general reduction.

One must look for possible price weakness in the early fall when the automobile makers start to purchase, for these tough boys make hammer blows at the steel markets and it has to be a strong price structure to withstand them. They won last October and forced the decline, previously mentioned. The automobile makers also held the umbrella over makers of refrigerators, stoves, and other items requiring light steel who got in on the bargain prices.

Speaking in glittering generalities, steel prices are apt to be stronger in January than in July. The peak of operations usually comes in March or April, and in January the steel makers are looking forward to this bulge with confidence. In July they may be looking forward to a dull summer.

Again when steel operations are 55% of capacity or better, they are apt to be strong; under that rate, *vice versa*. The United States Steel Corporation usually initiates price advances, while the independents start the declines. The jobbing market follows a less regular pat-

tern. Steel bought from the jobbers and warehouses can almost invariably be secured somewhere at some concessions, even in most prosperous times. The trouble is, of course, that in times of scarcity the outfit who made the sharpest price concessions previously will probably be unable to provide the steel this time at any price. Then the more conservative and rugged jobbers prove their place in the distribution picture.

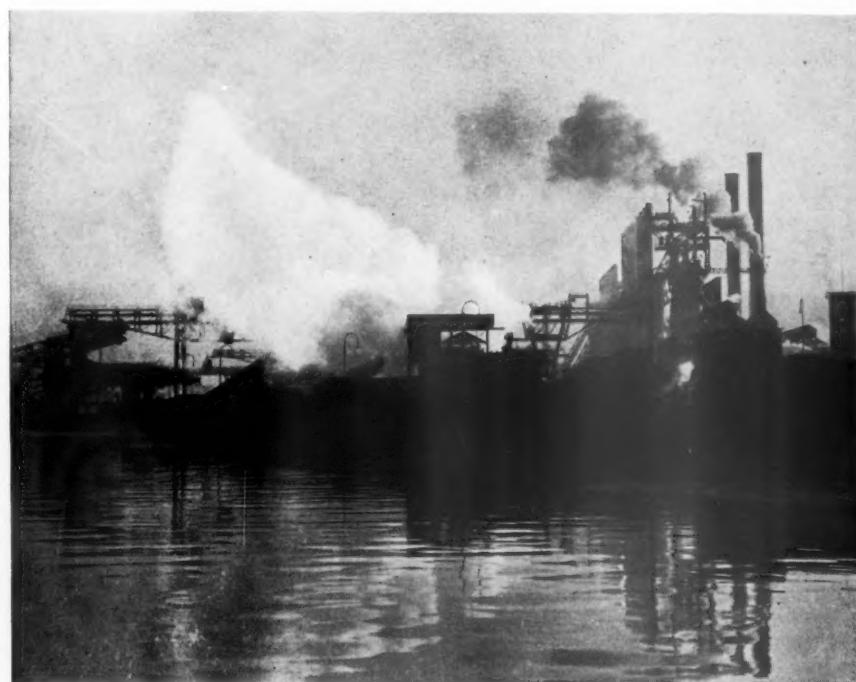
An Ethical Industry

The ethics of the steel industry of course improves each year. An almost unprecedented gesture of good will and fair play came to light at the close of November, 1938, when Carnegie-Illinois set in motion the refunding of about \$5,000,000 to can makers. The price of tin plate from Jan. 1 to Nov. 10, 1938, was published as \$5.35 per box. However during this period tin plate was being sold quietly at \$5.10. Carnegie-Illinois thus decided to honor that lower price retroactively, hence the refund, and presumably without such a request from buyers.

Yet within recent years there have continued certain practices which may not be regarded as strictly ethical in steel circles. Thus if a consumer will place an order for more than one kind of steel he may get some lump sum reduction, the discount thus not being pinned down to any one item. A maker of steel rails may barter finished rails for scrap rails, allowing more for the old rails than the market price, which of course in effect amounts to a cut in the price of new rails. But such irregular practices become less frequent, for usually the company which resorts to such tactics loses in the long run.

Steel scrap markets are in a class by themselves. However, great progress has been made during the past ten years, or since the formation of the Institute of Scrap Iron and Steel, which has placed the industry on an upright basis. In the old days a steel maker might reject car after car of scrap reach-

Continued on page 70





*"As one purchasin' man to another, you know what I'm up against;
them furriners just won't pay that high for scrap."*

SILHOUETTE STUDIES

35: Edgar Van Vechten

FEW JOBS IN INDUSTRY command the interest and loyalty of their practitioners as much as purchasing. And few industries arouse the enthusiasm of their personnel as much as aviation. Perhaps it is because both fields—the management function and this newest phase of transportation—are only now beginning to realize their tremendous potentialities and are looking forward to rapidly widening opportunities for service. At any rate, the combination of the two is a challenging assignment. And that assignment is the lot of Edgar Van Vechten, Purchasing Agent of the United Air Lines Transport Corporation at Chicago, who is very much the purchasing man, and at the same time very much the aviation man.

Van Vechten has been in supply work for eighteen years. But for even longer than that he has been closely associated with the business of flying. Back in the early part of 1917, when, as a youngster of nineteen, he heeded the call to arms, he signed up as a mechanic with the 117th Aero Squadron at Kelly Field, Texas. Naturally, he was eager to become a flyer, and was well on the way to attaining that ambition when a crack-up while training in England cost him his chance for an aviator's commission.

Disappointed but not discouraged, and no bit less fascinated by the soaring ships, he went on with his outfit and spent the next two years, after a training period in England, just behind the lines in France and Belgium, helping to keep the ships in the air and the engines functioning under that most severe test. He was well equipped for the work, with a technical high school training and two years of practical experience as a machinist in the du Pont plant at Amboy, N. J., and with the Rem-

ington Arms Company at Hoboken. It was not a spectacular service, but it was a very essential one and influential in shaping the course of his later business career.

BACK TO CIVILIAN routine in 1919, he went to work at the Army Air Base in Newark as an inspector of the aircraft material being returned from France. In 1921 he took charge of the Newark supply warehouse of the Government Air Mail Service, and a year later went to a similar position at the supply base in Maywood, Illinois, all the while increasing his first-hand familiarity with the materials and supplies used in flying.

In 1926 he became identified with commercial aviation, serving as station manager at Maywood and Kansas City for the National Air Transport, which then held the air mail contract between Chicago and Dallas. Two years later he was appointed purchasing agent for the growing organization, a position for which he was eminently qualified by his technical background and his long and intimate connection with the service of supply in the industry.

Since that time he has moved steadily upward. When United Aircraft and Transport was formed in 1930, bringing under one management the N.A.T., Varney, Pacific, Boeing and Stout lines, with established routes spanning the country from New York to San Francisco and Los Angeles, Seattle to San Diego, the five purchasing departments were consolidated in one central office at Chicago, and it was logical that Van Vechten should be chosen to head up the very sizable job of buying for the organization, now known as United Air Lines.

His present position is the natural development of that responsibility, which has grown with the expand-

ing industry. From his office in the new and very modern building adjoining the Chicago Airport, his supervision of buying includes not only the general operations such as the fleet, scores of landing fields and more than three dozen traffic offices; but also a commissary department that serves a million meals a year, with a menu worthy of the finest hotel and having large food bases at New York, Cleveland, Chicago, Omaha, Salt Lake City, Oakland, and Portland—a far cry from the box lunches of an earlier day; also the Union Air Terminal at Burbank, California, the Boeing School of Aeronautics at Oakland, and the busy overhaul and repair shop at Cheyenne, where material standards and technical precision are more exacting than in many industrial fields.

The scope of the purchasing agent's position is reflected in the fact that this transport system flies the equivalent of three round-the-world trips every twenty-four hours. It always has at least twelve and sometimes as many as forty airplanes in flight simultaneously on its coast-to-coast network, including thirty-five cities in sixteen states and Canada. To fly this schedule, carrying one-fourth of all air passengers in the United States and more than one-third of the nation's air mail and express, requires a fleet of fifty-seven three-mile-a-minute twin-engined transports, uses eleven million gallons of gasoline a year, and proportionate quantities of oil. Incidentally, with a Fair at each end of its New York to San Francisco route in 1939, there's increased purchasing activity for "The Main Line" already in evidence for what promises to be a record year for the airlines. The company's investment in planes and terminal facilities now approaches the ten million dollar mark, indicat-

ing that air transportation today is definitely a large scale business.

To the outsider, aviation is still colored by a spirit of romance and adventure. There's a thrill in the personal experience of flying, an emotional lift in watching man's conquest of the clouds. But within the industry, those factors have long since been subordinated to more practical considerations, for it is clearly recognized that there is a lot of infinitely careful and unromantic work to be accomplished in constantly raising the standards of performance, safety, and reliability, and that the development of aviation service and its wider use in the country depend on such items as speed, safety, dependability, load capacity, comfort, and the like, which must be accepted in place of the pleasant but relatively profitless emotional appeal. While other industries may strain a point to inject the element of romance into their daily round of activities, aviation is striving to get romance out of the popular conception of its business. Like all good airmen, Van subscribes to the principle that "there's no room for a hero in aviation."

He is doing a real job in helping to establish that new concept. It is a part of his purchasing assignment to see that materials are more than adequate for the new and severe conditions of use that must be encountered. That means keeping abreast of technical and engineering progress. It means combing the country for progressive, reliable, and well equipped suppliers, and working closely with them. It means X-ray analysis of bolts and castings to discover the causes of strain and fatigue, in order that these may be overcome. It means many purchases annually for the research development work in which the company has long been a pioneer, having been responsible during the past ten years for many of the aids which are now standard throughout the world, including two-way radio and other boons to commercial flying. In cases of this sort, the purchasing problem is

not only one of procurement but of product development with the manufacturer.

It means constant attention to the planes' appointments and to the scores of details that make for added comfort and pleasure in traveling by air. There are, for example, a hundred and twenty different articles for passenger convenience in use on each of the overnight coast-to-coast sleeper planes, including such purchases as a baby's kit with twenty-two different types of food supplies.

Just as important as the procurement work itself is his personal demonstration of the practicability of air travel as a means of expediting business and the commercial possibilities of the air lines as selective carriers of merchandise. He covers the entire system at least once each year—by air, of course—visiting every major station and practically every major supplier. That runs up rather an impressive mileage total, but flying has made an otherwise burdensome and time-consuming schedule into a quick and efficient trip with a minimum of interruption to other executive duties.

He has also made a practice of routing a good many of his purchases by air, having them delivered to the nearest point on the line, and then flying them to destination. That has been found practicable in handling a surprising range of items, and the prospective customer of air transportation for emergency or staple deliveries can find many notable instances of such service in the experience files of the company itself. Van does these things because he believes whole-heartedly in aviation. It is difficult to imagine any more effective way of putting teeth into the industry's promotional program.

THE CHICAGO ASSOCIATION of Purchasing Agents counts Van Vechten among its most active, willing and effective workers. His introduction to association work came about somewhat indirectly. Appointed to the purchasing job, he realized that he had a lot to learn

about buying. Though his office at the time was located right in Chicago's Loop, he was unaware that any such organization of purchasing men existed. He did, however, learn that there was a book on the subject, written by the purchasing agent of the Detroit Edison Company, and he wrote to Ed Gushée, ordering a copy. In acknowledging that letter, Gushée went on to refer him to the Chicago Association as an opportunity for personal contacts with other purchasing men, for discussion and exchange of ideas on purchasing topics. Van investigated, joined, and presently was deep in the work, for it is not in his nature to sit idly on the sidelines.

He became a member of the Board of Governors, was one of the spark-plugs of the Convention Committee in 1930, and served a year as President. For the past several years he has been chairman of the Christmas party, always one of the high spots of the Association year. It involves plenty of work, but Van thrives on that and gets a real personal satisfaction in putting it over.

On the serious side, he was recently instrumental in forming a purchasing officers' group in connection with the annual Air Lines Maintenance Conference, which embraces the whole industry in this country. Purchasing men have always attended that conference, but chiefly in the role of listeners. It was logical to take advantage of this occasion for a more direct and specific consideration of purchasing responsibilities, and it required vision and leadership to effect the new organization. Van Vechten is currently the chairman of that group, which in its first year has already laid the foundation of real accomplishment in bringing together men who are facing related problems in buying for this relatively young and rapidly growing industry.

His other principal affiliations are the Aviation Post of the American Legion, and the Masonic fraternity.

Continued on page 58

MEMO TO EXECUTIVES

Just dictating a short letter like this has brought greater efficiency and increased profits for many companies in a wide variety of industries.

GAYLORD CONTAINER CORPORATION
ST. LOUIS, MISSOURI

GENTLEMEN:

YOUR ADVERTISING OFTEN MENTIONS THAT GAYLORD CORRUGATED OR SOLID FIBRE SHIPPING BOXES HAVE HELPED MANUFACTURERS SIMPLIFY PACKING, REDUCE DAMAGE CLAIMS AND INCREASE SALES.

WE WOULD LIKE TO HAVE YOU CHECK OUR PRESENT PACKAGING SET-UP TO DETERMINE IF SUCH BENEFITS COULD BE SECURED FOR US.

WILL YOU HAVE YOUR REPRESENTATIVE SEE OUR MR. _____ AND WORK WITH HIM? WE UNDERSTAND THIS WILL NOT OBLIGATE US, UNLESS YOU DISCOVER A DEFINITE WAY TO BETTER OUR PACKAGING OPERATION.

VERY TRULY YOURS

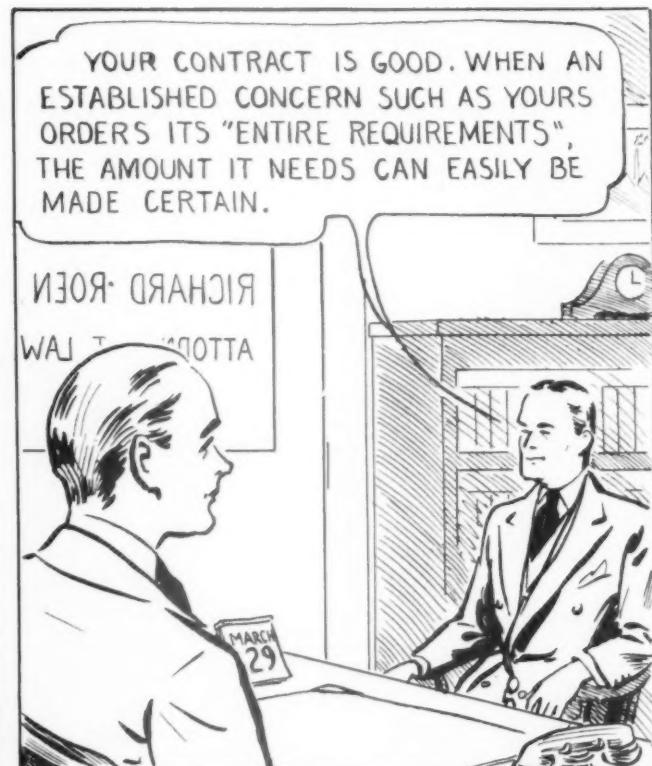


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Pen-Points on Purchase Law



HERE is a case where the seller appears to be looking for a loophole in his contract, while the purchasing agent wants to hold him to his bargain. If there were no valid contract in the first place, an action for breach would, of course, be ineffective. Hence the questions: Are the promises to furnish and to take one's "entire requirements" valuable ones, or are they so indefinite as to be worthless? Do such promises furnish "consideration?" To these questions the courts answer that

a promise is not indefinite when the requirements of the buyer can be ascertained by estimates based on the normal needs of the buyer's business for the particular article. If the buyer's business is an established one, these requirements are readily computed.

A car shortage unless provided for in the agreement or unless due to an unforeseeable situation ordinarily would not excuse the seller.

Copy by H. H. Shively, Babson Institute; drawings by G. E. Tulloch.

How Lumber Is Marketed

F. A. WESTBROOK

AS A BASIC industry lumbering comes next to agriculture in the United States, and from the standpoint of the value of its manufactured products it comes third, with annual sales totaling around one and a half billion dollars. By far the largest use of lumber is in the construction industry, of which about 90% is among the varieties of softwoods. The next most important use is for the manufacture of furniture, which is mostly made of hardwood. Other hardwood products include plywood, toys, wooden heels, novelties of a great many kinds, and other applications such as handles for different varieties of tools, etc., etc. The largest quantities of lumber come from the Pacific Northwest and the southern states. California, the lake states, the northeastern states and certain of the inland states are also producers.

In considering the factors affecting the price of lumber, it is interesting to note that as the country became more and more settled, the development of the lumber industry grew more complex. That is, in the beginning the sources of supply were not far from the points of consumption and it was usually possible to select a source adjacent to a waterway to facilitate transportation. But the inevitable tendency has been for these sources of supply to recede further and further away from both waterways and consumers. This of course added to the cost of lumber and led to very keen competition in the Middle West



This is the fifth article in a series outlining the marketing process in major raw materials, tracing the course of the material from its source to the time of its arrival in the industrial user's plant

which is more or less centrally located with respect to the western, southern and northern sources. Prior to the opening of the Panama Canal, western lumber hardly had a chance in the eastern markets because of the high costs of transportation, with the result that there were, in those times, occasional shortages along the east coast.

In addition to the competition between producing areas, there is of course competition between producers in the same area, as well as that between retailers and finishing mills in the same region. These competitive conditions naturally tend to act as a brake on unreasonable prices. This is accentuated by the great number of small owners of merchantable timber who are ready to take advantage of an increase in price to start logging operations. There is also a growing competition from substitute materials. This is due mainly to the desire of many people to give play to their inventive genius in finding something new that will do the job just as well, rather than to fire-proof, or fire-resistant, construction. Actually such construction affects only a very small percentage of the building industry, and is

employed only in the highly metropolitanized areas.

Great advances have also been made, and are continually being improved upon, in labor saving machinery both in logging and finishing mill work, and these are practically always accompanied by better methods of management. The same applies to transportation. Such improvements help to offset increased costs due to the continually increasing distances of the sources of supply, and increasing labor costs. In many instances the cost of manufactured products has thus been reduced.

The weather is another price factor in that floods or excessive snows may make it difficult to get out the logs. A hurricane such as that which recently visited parts of New England may blow down an equivalent to ten year's normal cutting, as happened in New Hampshire to the white pine, and glut the nearby markets at least. Or a drought may dry up the streams normally used for log drives and make it impossible to release a sufficient quantity of logs in a given area to take care of current requirements, thus making it necessary to bring lumber from a more

distant point at a higher price to cover transportation.

Of course the most important factor affecting the price of lumber is the relation of supply to demand. As the largest market for lumber is in the building and construction industries, the latter largely determine the demand. On account of the large number of private owners of commercial stands, the market is very likely to be over-produced to some extent except during periods of intensive building activity. This causes some producers to be "timber poor" and to sell at a loss at times in order to take care of overhead and to hold on to skilled workers. However when the building and construction industries are active, the price tendency is naturally upward, and the best barometer of price trends is what is happening in those industries.

Lumber is not rated on the Com-

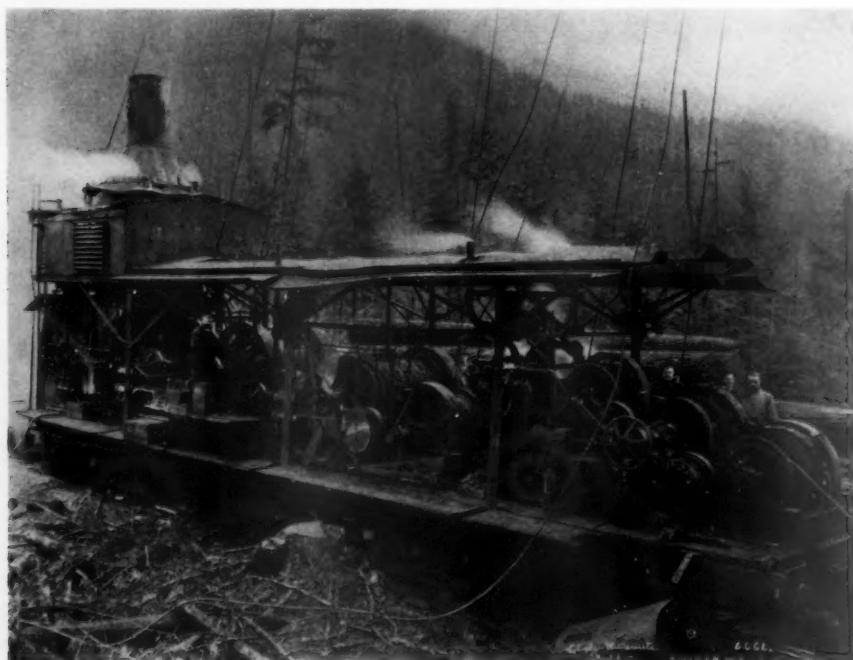
producer-dealer in the country who is located at the source of supply of raw material, and is also close to the consumer. Such producer-dealers are to be found where there is standing timber surrounded by farms. He may have a timber lot of his own which he crops from time to time, taking those trees which are large enough to be of commercial value and leaving the smaller ones to a later date. For instance, a certain Vermont producer says that he has cut over one of his lots three times in this way, and he is not so old but what he may do it a fourth time. This is not an uncommon procedure where the circumstances are favorable for it, as in this case. In addition to this the small producer usually buys logs from farmers in the neighborhood who have wood lots and get out fifteen to twenty thousand feet during the winter when other work is slack.

mission stock which is suitable for framing or mill work, which he sells to finishing mills not too far away for economical transportation. He may be a dealer as well, in the sense that he retails material which he does not make himself but secures from supply houses which manufacture or carry mill products such as shingles, clapboards, sash, frames, etc.

Then there are the portable mill people who set up their saw mills temporarily where there is a good stand of some kind of commercial timber and sell their products to finishing mills and retail lumber yards. Areas lumbered in this way are usually cut over completely and the cropping method is not followed because it does not pay under such circumstances. Portable mills may be owned by comparatively small concerns operating only within a limited territory, or they may be owned by large corporations having a merchandising organization, like the Diamond Match Company, which secures lumber over a comparatively wide territory for the purpose of providing its finishing mills and supply houses with material.

Logging operations on the West Coast are much more elaborate as the trees in that region, including Sitka spruce, Douglas fir, Western red cedar and the West Coast hemlock, are of such large size. The country is rough and the distances from the mills considerable. This has necessitated the building of truck roads, railroads and logging camps. The latter are sometimes of permanent character and sometimes portable buildings constructed on flat cars. They include bunk houses, bath houses, dining rooms, kitchens and recreation rooms. In some cases the railroads are 40 to 50 miles long. Whenever a river or arm of the sea is available for a part of the transportation, it is used. Caterpillar tractors are used for pulling or lifting the large logs, or steam, diesel or electrical power may be employed for such work under certain conditions.

The trees are felled by two men using a cross cut saw, who do noth-



A portable outfit for skidding logs

modity Exchange and consequently there is nothing in the industry such as trading indices, futures markets, etc., to act as a guide to its price or by means of which insurance against adverse price changes may be had. Good judgment and study of trends are all there is to go by in this respect.

Lumber is marketed in several different ways, which will be briefly considered. First there is the small

producer of this type of producer generally consists of rather simple machinery. It includes, of course, a saw mill and a planer for dressing the boards. His market is local within a radius, say, of twenty-five miles, and his clientele consists mostly of private owners who are putting up some kind of building or making repairs to existing buildings, and to some extent the local contractors. He may, also, make di-

ing else. The next step is to limb the trees, that is cut off the branches, and the log is then sawed into standard lengths varying from 24 to 40 ft., as laid out by the "bull bucker," or foreman. The diameters of these logs are from 2 to 4 ft. and they weigh several tons. Loading points are located along the truck roads, railroads or spurs, and are equipped with "yarding" engines operating cables which are wound up on a drum to haul in the logs, and covering a radius of as much as 1,500 ft. Where the character of the terrain permits, the logs are brought in to the loading points by means of the caterpillar tractors so that the distance may be extended and the number of loading points with the expensive hauling and lifting equipment decreased.

When it comes to manufacturing in the Douglas fir region, the operations are on a large and highly mechanized scale. Over 80% of the lumber produced in this West Coast region is manufactured in large plants handling from 75,000 to over 1,000,000 board feet per day, the average being around 200,000 ft. These large producing units make possible the use of highly efficient labor saving machinery to offset the increasing costs of labor, equipment and supplies. There are, of course, saw and planing mills, and others for turning out products such as flooring, ceiling, siding, doors, boxes, specialties, etc. There are also pulp and paper mills in some of the mill organizations. Very complete and ingenious devices for the mechanical handling of the raw material and products in process of manufacture are used so as to save labor and time. The products of these mills are shipped by truck, rail and water to every state in this country and some sixty foreign countries besides.

The retail lumber yards where the consumer secures his supplies may or may not have finishing mills associated with them, but they carry a stock of materials from which contractors and industrial users can make their selections; and it should be pointed out that

Continued on page 49

"QUICK-Let's have the Graver File"



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<input type="checkbox"/> Creosoting Stills	<input type="checkbox"/> Municipal Filtration Equipment	<input type="checkbox"/> Stacks
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Send Complete Data on Checked items.
 Please have your representative call.
 Can you furnish? (If not on above list, mention item here)

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How to "Get in Right" with the Buyer

UPON YOUR FIRST call, bluster into his office and tell his secretary that you have an appointment with him. Of course you haven't, but he will appreciate your role of "go getter" and be anxious to see you.

The next procedure is sure fire! Present to him a wet, sticky palm and give him a handshake that will dislocate four knuckles—three doesn't count and you must start all over. Of course, if you want to add a little embellishment, you might insert a couple of secret society grips. The K. of C. one on a Jewish buyer will most certainly produce results. This handshake is very important for, upon the results of your technique depends your rating with him as a "he-man" and "good fellow." Along these same lines, a couple of large emblems prominently displayed on lapel and watch chain is very impressive. He is so dumb that he will never get wise to the fact that one of the reasons for the display is to help get an order.

Your introduction as outlined above has certainly put you "in right," so now is the time to pull the "piece-de-resistance." Tell him that you will cut his costs 50% if he buys your merchandise. He has been struggling for the past year and combing the market for ideas and prices to save money, but who is he to argue with you the merits of your proposition, especially with your superior knowledge of *his* business?

Go into a very extensive sales talk on your product, whether he is busy or not; besides, he is getting paid for interviewing salesmen and

In pamphlet form, this little article has had wide circulation among the salesmen calling at Mr. Best's office, and has been thoroughly enjoyed. Other purchasing men may find it of interest, too.

JAMES F. BEST

Purchasing Agent
The New York Hospital

you are certainly entitled to your hour or two.

What! He doesn't want to look at your line? Well, he most assuredly is going to see it. Get that big brief case spread out on his desk and search for two or three minutes for several articles to show him.



Will you please tell me why he keeps repeating that he is not interested? Not interested in that triple oscillating, double action syringe that does everything, including the blood typing of the donor. He says he has no use for it—what a stupid ass!

If you have followed the above procedure, you surely have sold him all the way along the line and now comes the price angle. Quote him enough so that you get yours. He will probably say in his dumb manner that your price is too high and here is where you get in your most deadly work as a selling genius. Tell him what a dirty, lousy, scurvy bunch of no good buzzards your competitors are. They pull that

same stunt all over town and be sure to emphasize that their product is junk. Don't go "sissy" now, and explain the quality of your merchandise; your personality alone should be enough to swing the deal. Let him buy the other fellow's and he will close up in a month.

So, he won't buy, eh? Well, that's his hard luck. Better build up a little of the personality stuff for future calls, so let's get chummy. Delve into his political leanings or his attitude about future business and take the opposite view, for debates are so interesting and time-consuming. Maybe a little suggestion about the fights or the hockey game come Wednesday and make a night of it afterward by visiting several hot-spots that you know will prove enticing, especially with a swell guy like you. He may think about it as a sort of bribe, but who asked him to think?

Of course, all the time this little tete-a-tete is going on, you have your eagle eye peeled reading the papers on his desk, and, if you see an item for purchase in your line, come out frankly and state that you can send it immediately, and relieve him of any further bother. He will appreciate your thoughtfulness.

Well, you've spent enough of your valuable time with him and so comes the time for departure. Grab up the brief case and your samples from his desk, making certain that you also include several of his papers. Don't forget that good old handshake again and on the way out tell a couple of loud salesman's jokes to his secretary and if she is good look-

(Continued on page 40)



By 4 P.M. You Realize

... HOW EASY IT IS
TO OPERATE



The astounding new Master with its new Sealed Action Frame—Champion Keyboard and Dual Touch Tuning.



You can hardly *blame* the typist who appeals to her chief for one of these new Underwood Masters. Besides, when she pleads for a new Master, she's doing her employer a service, too.

The Underwood Master is well named. Actually it's a Masterpiece. Typists bubble over with enthusiasm about its easy "touch." But Underwood engineers will tell you there's a definite reason back of it. The Underwood is equipped with *two* separate adjustments for "TOUCH"—one of them controlled by

a flick of the operator's finger from a normal typing position.

And that's just one of the reasons why typists want the new Master. It won't tire them out. They're fresh as a daisy at the fag end of the day. There's no falling off in production — no flock of errors chargeable to type-weary fingers and wrists.

Why not telephone the nearest Underwood Branch for a free test in your own office? After all it won't cost you a penny to see the

new Master in action on your own work. You don't have to buy it to try it.

Every Underwood Typewriter is backed by nation-wide company-owned service.

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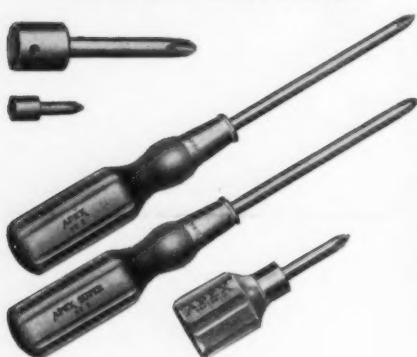


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They are made of a special shock-resistant steel, heat-treated to give maximum hardness, toughness and wear resistance. Special tempered bits for self-tapping and case-hardened screws. For best results, specify type of screw used when ordering.

Power Bits for Phillips or Slotted Head screws—all types, all sizes—to fit all makes of electric, air and spiral drivers.

HAND DRIVERS



Hand screw drivers for Phillips Screws only: General Purpose types for ordinary usage and the Super type for case hardened and self-tapping screws.

And, you can get immediate delivery on standard Bits and Hand Drivers.

Don't overlook this economy on Apex-Phillips Power Bits: when worn out, you can return them for reconditioning at a very substantial saving.

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MACHINE & TOOL PROGRESS EXHIBITION
Convention Hall, Detroit—March 14-18

The APEX MACHINE & TOOL Co.
Dayton, Ohio

Inventories Down 10% During 1938

Inventories of 100 leading companies, as reported in the last quarter of 1938, were 10% smaller than a year ago, according to a compilation by the National City Bank of New York, and published in the monthly letter. Excluding four tobacco companies whose 1938 stocks had been swollen by large crops, the reduction amounted to 15%.

Respecting the inventory situation, the letter states:

"The annual reports of corporations, which are now coming out, will be examined with particular interest for information as to inventories, in view of the memories of 1937 and the lack of exact facts from other sources. Thus far the available reports are too fragmentary to warrant broad conclusions.

"Despite their limitations, however, the figures deserve attention, and a tabulation is given herewith. It shows that the inventories of 100 leading corporations (all having inventories of \$1,000,000 or more) were 10% smaller than a year earlier. This includes four tobacco companies, whose figures are swollen by two consecutive large tobacco crops. Excluding these companies, the decrease is 15%.

"The quarterly peak of inventories was reached, according to studies made by R. F. C. statisticians, on September 30, 1937. The reduction from the peak accordingly would be somewhat larger than 15%. In the ratio to sales and production the inventory improvement is, of course, substantially greater than that shown by the actual figures."

Number of Companies	Product	% Change 1937-1938
10	Food products	- 15
4	Tobacco products	+ 3
10	Textile products	- 7
7	Clothing & Apparel	- 33
13	Leather and Shoes	- 19
5	Rubber products	- 22
7	Paper products	- 9
6	Chemical products	- 11
22	Metal products	- 6
9	Misc. manufacturers	- 16
93	Total manufacturing	- 9
1	Retail	- 9
6	Wholesale	- 18
7	Total trade	- 17
100	Total mfg. & trade	- 10

PICTURE OF A MAN

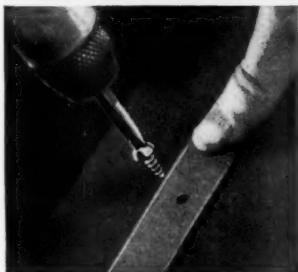
SLASHING HIS PLANT'S ASSEMBLY COSTS 50%

Many a manufacturer thought of using Phillips Recessed Head Screws from seeing them on automobiles, aircraft, electrical appliances, furniture, lawnmowers—bearing the names of firms which are famous for insisting on *both quality and most efficient methods* of manufacture.

Patented Phillips Recessed Head Screws are priced somewhat higher than slotted screws but the savings in assembly costs more than offset the difference in price. Also, your product's sales appeal is increased. Remember, the Phillips Screw — a stronger, burrless, more attractive fastening—is fast becoming a mark of *quality* manufacturing!



NOW YOU CAN SEE WHY ASSEMBLY MEN TURN OUT FASTER, BETTER WORK



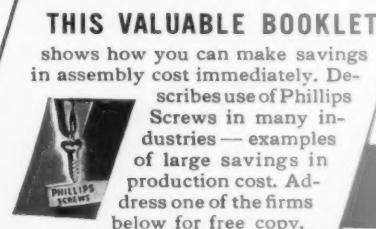
The Phillips Recessed Head Screw clings to the driver — no fumbling. Awkward places easy to reach. Note power driver — no danger of accidents caused by slipping driver.



One hand drives—other hand steadies the work. The Phillips Screw automatically goes in straight. Triple contact of Phillips driver and screw-head makes driving easy.



Phillips Screws set up flush without split head. Improved appearance. More holding power—often fewer or smaller, lower-cost sizes are used.



THIS VALUABLE BOOKLET shows how you can make savings in assembly cost immediately. Describes use of Phillips Screws in many industries—examples of large savings in production cost. Address one of the firms below for free copy.



STRENGTH OF HEAD DUE TO SHAPE OF PHILLIPS RECESS. Taper and depth of Phillips recess carefully worked out to utilize driver's *maximum* turning power—without sacrifice of strength in screw head. Flat surfaces—no sharp corners; so no burring. 4 sizes of Phillips Drivers provide greatest efficiency for all Phillips Screw sizes. 2 sizes fit diameters #5 to #16 inclusive.

PHILLIPS

MACHINE SCREWS

U. S. Pat. on Product and Methods Nos. 2,046,343; 2,046,837; 2,046,839; 2,046,840; 2,082,085; 2,084,078; 2,084,079; 2,090,338
Other Domestic and Foreign Patents Allowed and Pending

American Screw Co., Licenser
Providence, R. I.

Continental Screw Company
New Bedford, Mass.

Corbin Screw Corporation
New Britain, Conn.

SHEET METAL SCREWS

The Lamson & Sessions Company
Cleveland, Ohio

National Screw & Mfg. Co.
Cleveland, Ohio

Parker-Kalon Corporation
New York, New York

WOOD SCREWS

Pheoll Manufacturing Company
Chicago, Illinois

Russell, Burdsall & Ward Bolt & Nut Co.
Port Chester, N. Y.

Scovill Manufacturing Co.
Waterbury, Conn.

STOVE BOLTS

... IT COSTS LESS TO USE PHILLIPS SCREWS

High-Test Cast Iron Meets Today's Needs

SOME PURCHASING AGENTS and design engineers will perhaps be surprised to learn of the excellent strength which is now obtainable in high-test cast iron, without serious sacrifice of machinability. These cast irons virtually combine the strength and wear resistance of steel with the vibration resistance of ordinary gray iron. They are used extensively in automotive parts, such as crankcases and cylinder heads, in forging anvils, and in the frames of modern machinery subjected to severe stresses and shock.

Some combination of properties such as high strength, good machinability, and sound, dense section is, of course, desirable in most castings. Fortunately, the American Society for Testing Materials has so classified cast irons that designers can designate by number the irons with the principal mechanical properties required. For example, the tensile-strength classifications are as follows:

Class	Tensile Strength, Minimum lb. per sq. in.
No. 20	20,000
No. 25	25,000
No. 30	30,000
No. 35	35,000
No. 40	40,000
No. 50	50,000
No. 60	60,000

Although some engineering handbooks give the tensile strength of gray cast iron as only 20,000 lb. per sq. in., good foundry practice will add 60% to this value, and small alloying additions and heat-treatment will double or triple it. The modern, well equipped foundryman can easily and economically produce cast irons having tensile strengths of from 35,000 to 60,000 lb. per sq. in. These are called "high-test" cast irons, and fall into the A.S.T.M. class range designated by Nos. 35 to 60.

The minimum load which these high-test irons should withstand in transverse tests is as follows:

Class	(A) 0.875-in. diam. × 12-in. span	(B) 1.2-in. diam. × 18-in. span	(C) 2-in. diam. × 24-in. span
No. 35	1,275 lb.	2,400 lb.	8,300 lb.
No. 40	1,400 lb.	2,600 lb.	9,100 lb.
No. 50	1,675 lb.	3,000 lb.	10,300 lb.
No. 60	1,925 lb.	3,400 lb.

It is recommended that a test bar be selected, the diameter of which roughly approximates the section thickness of the casting under consideration.

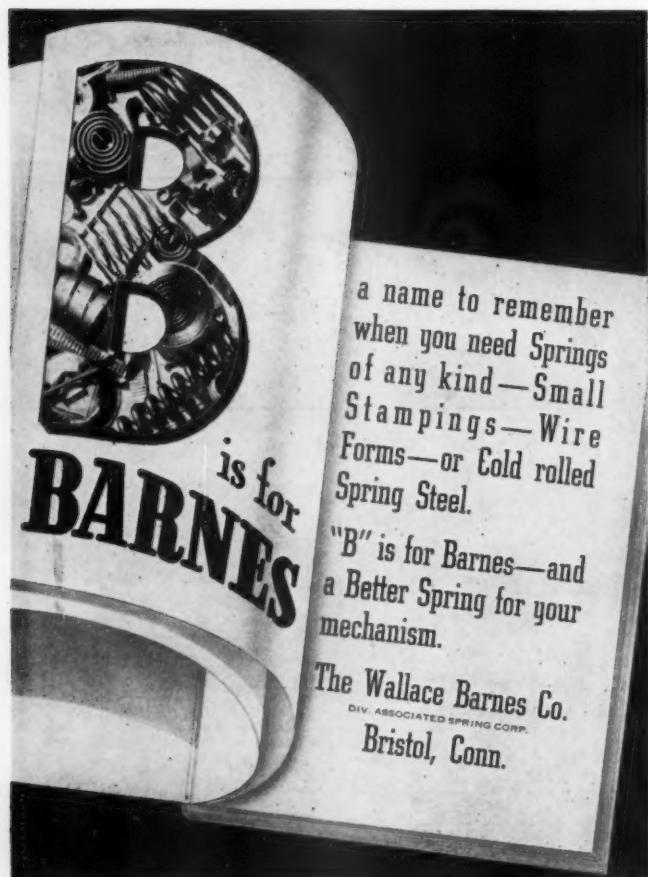
As a rule, low-carbon, high-test iron shows a much higher tensile strength in relation to its transverse strength than does a lower strength iron. One iron, for instance, the transverse strength of which was 30% higher than that of an ordinary iron, had a tensile strength over 75% higher.

Some users of cast iron will be interested in knowing why it is well worth their while to specify high-strength cast iron even though they have been able to "get by" with inferior castings. The experience of one large foundry shows that even when a low-grade cast iron will do the work, it is nevertheless undesirable to use it.

This company makes just about the same number of castings now as in 1928, but the castings weigh only approximately three-quarters as much. Ten years ago the average strength of their cast iron was approximately 35,000 lb. per sq. in., and today it is approximately 50,000 lb. per sq. in. It is therefore apparent that the weight of the casting has been reduced in roughly the same proportion as the strength of the iron has increased. It is obvious, of course, that weight-saving makes possible savings in the manufacture, transportation, and use of castings.

Many manufacturers dispense with definite formulas for the allowable design stress for any particular strength of cast iron. It is not easy to determine the exact strength of a part of a casting in a piece of equipment, as the tensile strength of the thicker sections might not correspond with that of a separately cast test bar. Experience is the best teacher. If reducing a section in order to lighten a part tends to result in failure of the part, the trouble can be remedied by using

Continued on page 67



A Belt must *Grip* the Pulley

CHALLENGER, Republic's
Square Edge Belt, is Designed to Grip
Evenly Across the Full Width and Area

■ Operating efficiency of Transmission Belting depends upon its ability to hold to the pulley under the most trying conditions. The decreasing of slack side tension with a reduction in strain on the bearings . . . maintenance of operating speed without slippage . . . and primarily saving of power . . . all are dependent on the pulley-gripping capacity of the belt

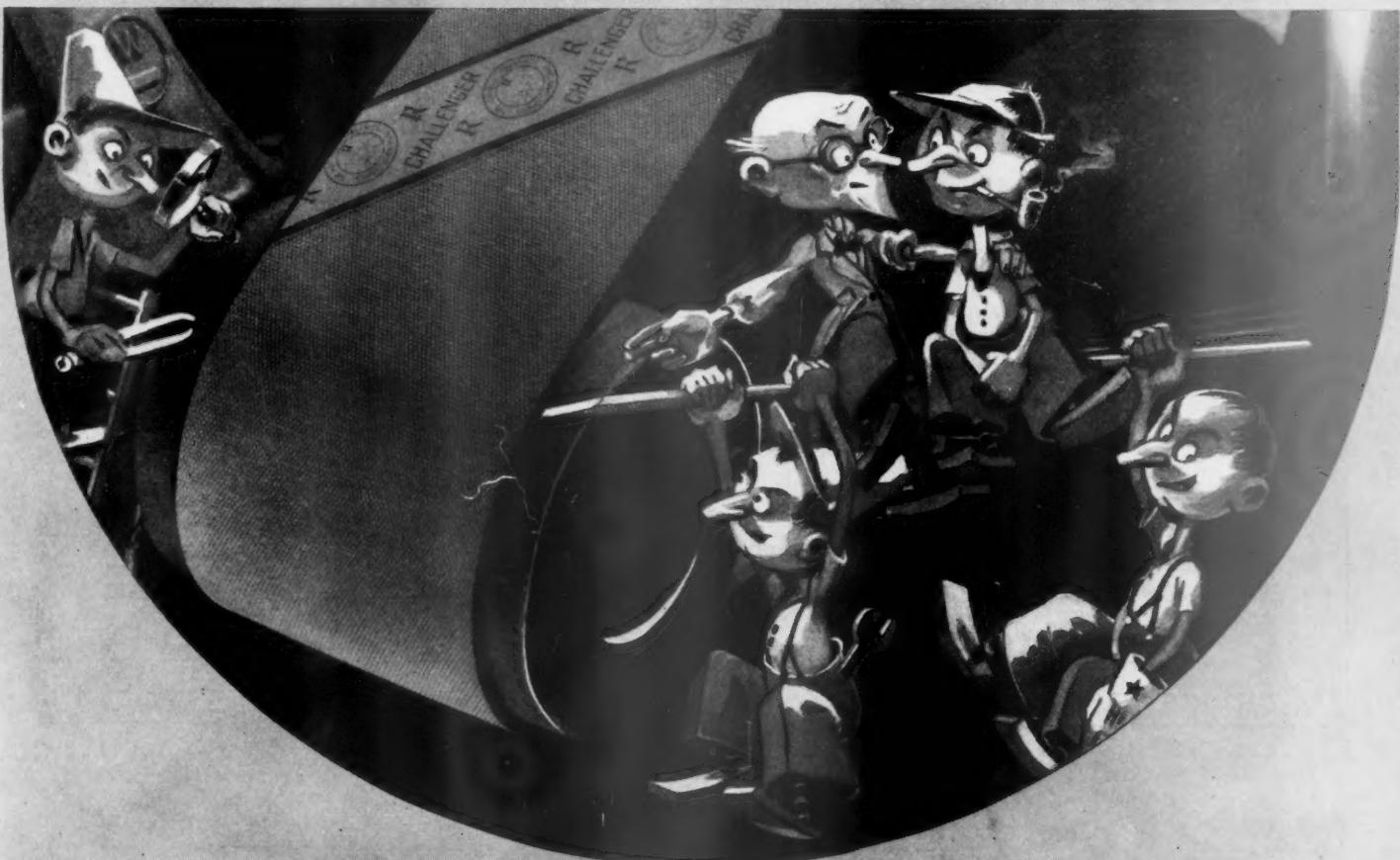
Republic's Challenger is expressly designed to grip uniformly across the face of the pulley. The completed structure must function as a unit on the drive — production methods are regulated to meet this objective. Ply construction and rubber compound with high coefficient of friction are carefully planned. Each

element contributes to the economical service characteristic of Challenger.

Industry has found evidence of this same complete development in all Republic Products. When considering a Mechanical Rubber Product for your plant, let us show you the extent to which your requirements will be met with a Republic brand. Republic Rubber Division of Lee Rubber and Tire Corporation, Youngstown, Ohio

REPUBLIC RUBBER

HOSE • BELTING • PACKING • MOLDED PRODUCTS



• ORDER REPUBLIC RUBBER PRODUCTS FROM YOUR DISTRIBUTOR •

COMPARATIVE TESTS as a measure of value in PURCHASING

This simple scoring chart provides a positive means of evaluating all of the competitive factors, including price

LESLIE F. ROBBINS

Purchasing Agent
University of Colorado
Boulder

MOST OF OUR THOUGHT and action concerning products testing have been centered about standard specifications. We think of inspection and testing in terms of trying to find out whether the goods offered, or the goods purchased actually measure up to the standard established by the specifications.

Let us think for a minute of another use for products testing.

Practically all of institutional buying and much of industrial buying is the purchasing of finished products, processed items, rather than raw materials or items intended to become a component part of some other manufactured article. Why cannot the testing laboratory be used to determine which of several makes available is the best for a particular purpose, by testing them comparatively against each other rather than by trying to test them against an arbitrary standard?

The theory of the standard specification and the standard test is the establishment of a standard below which no offering is acceptable and above which the lowest bid takes the order. The theory of the comparative test is the "theory of competitive worth."

It is reasonable logic to say that if specifying a high grade truck tire is economically justifiable—that is, will justify its cost—then a tire that is *better* than the specification may justify an even higher cost. Once we concede that possibility, we have largely eliminated the necessity for the specification except as a line of acceptability below which a tire is not wanted at any price.

Viewed from this angle, testing may take on a new significance. In addition to the stolid facts of size, hardness, purity and proportion revealed in the analytical laboratory

we get into the field of competitive performance. The contesting samples are on the cinder path, racing against each other for first place in your esteem. A certain set of parts assembled into a machine becomes a team on the testing gridiron working together to score a touchdown in the order book. They are not satisfied to just finish ahead of the axe. They want to excel everything in sight.

Why doesn't the same horse always win the horse race? Simply because conditions are always different. Why isn't the best tire for you to buy always the best tire for me to buy? Just because my tire needs are not the same as yours.

I should be short sighted if, because you had set up a test on truck tires that would duplicate your *pavement* trucking conditions I should follow it blindly in buying my truck tires for use in a *stone quarry*.

	Heat due to internal friction in degrees F.	Score (Inverse Ratio)	Sidewall bursting strength in lbs. per sq. in.	Score	Miles run before breaker strip shows	Score	Amount of skid in ft.	Score (Inverse Ratio)	Net price 7.50 x 20 8 ply	Score (Inverse Ratio)	Total Score	Rank
Sample 1	172	29	1670	27	25,400	67	12	17	\$27.00	173	313	3rd
Sample 2	149	34	1950	31	18,900	50	9.5	22	\$25.21	185	322	1st
Sample 3	169	30	1900	30	20,750	55	13	16	\$25.21	185	316	2nd
Sample 4	152	33	1490	24	17,600	46	13.2	16	\$27.20	171	290	5th
Sample 5	165	31	1810	29	17,000	45	11	19	\$26.00	179	303	4th

Example of scoring chart. (Hypothetical test of truck tires)

Likewise I should be foolish to buy the heaviest weight cotton bed sheet just because a test showed it to be the longest lasting, if I am paying for my laundering by the pound and if the extra cost of laundering the extra weight week after week more than eats up what I save due to the long life.

Things are not always what they seem, said Shakespeare or somebody. It's a good idea to mix a liberal portion of brains into every test-tube-full of sample substance. Likewise, there is just a possibility that once in a while there is that extra ingredient—call it reputation, call it accountability, call it dependability, call it what you will, that is not revealed in the test tube.

It takes ingenuity (with a capital INGE) to devise accelerated use tests that will bring out the factor or factors you are most interested in. It takes real exercise of intelligence to interpret the test results so that you will know which contestant won the race, *your race*.

The interpretation of test results can be made more certain and can be protected from aberrations due to prejudice and favoritism by the simple device, the *scoring chart*.

The scoring chart is drawn up at the same time the test is devised. The scoring chart is the numerical expression of the test results based upon a common denominator.

It requires that you think out beforehand how much weight each factor being tested should have in relation to the others in the total score. Then you set up your chart, giving numerical values to each test. The tests of all samples are run keeping all the conditions constant so that the results will be comparable and reliable. The test results are tabulated in the usual way but alongside each column of test results is a scoring column.

Now, since each factor or quality being tested for is a separate test, it should be so treated and the test results isolated temporarily from the results of the other tests. Thus, if your first test on the sample truck tires is for heat due to internal friction, you would give the sample hav-

Continued on page 48



• Engines roaring, the giant plane soared into the sky, southbound—and on schedule.

On schedule! Eighteen hours ago it had seemed impossible. The northbound flight captain had radioed ahead that the ship would require repairs before attempting the next trip. The nearest aircraft tubing of the required size was in New York, 1200 miles away.

A requisition, teletyped to the airline's New York office, was immediately relayed to Frasse. Frasse received the order at 11:30 A.M. The tubing was on the 2:00 P.M. plane out of Newark Airport—and at its destination by midnight. Repairs were made the same night—the plane left on schedule next morning.

The moral? Frasse offers you more than "prompt" deliveries. In emergencies, when you're straining, racing, to meet "impossible" deadlines, Frasse will match you—stride for stride.

Frasse knows how to hurry.

PETER A. FRASSE & CO., INC.
GRAND ST. AT SIXTH AVE. NEW YORK CITY
STOCKS AT NEW YORK • PHILADELPHIA • BUFFALO • JERSEY CITY
SALES OFFICES • HARTFORD • BALTIMORE • ROCHESTER • SYRACUSE • JAMESTOWN

the Paper Clinic®

*Of interest to all Purchasing Agents are sources of supply for paper specialties that are bound to come up in the day's activities. The McLaurin-Jones Company produces a famous line of paper specialties for virtually every purpose... better products that have been developed to do a better job for you!

In succeeding columns we will give Purchasing Agents details about McLaurin-Jones' products, a few of which are listed below.

- Blue Star Sealing Tapes—“Planet,” “Comet” and “Sunrise”
- McLaurin-Jones Guaranteed Flat Gummed Papers
- Ware Box Covering Papers
- Ware Foils
- Ideal Gummed Veneer Tapes
- Ideal Gummed Cambric Tapes
- Ideal Gummed Box Stay
- Ideal Gummed Hollands
- Ideal Cloth Lined Papers
- Ideal Binding Cloth
- Ideal Headbands
- Ideal Photomount
- Ware Coated Papers and Postcard Stock

These are only a few of the many well-known McLaurin-Jones Products that Purchasing Agents specify daily!



MCLAURIN-JONES CO.
BROOKFIELD, MASSACHUSETTS
Mills at Brookfield and Ware
OFFICES AT NEW YORK - CHICAGO - LOS ANGELES

Reciprocal Trade Pacts

C. F. DARLINGTON, JR., ASSISTANT CHIEF of the Division of Trade Agreements, U. S. Department of State, addressed the January meeting of the New York Purchasing Agents Association, explaining the program and accomplishments of the Division, which has negotiated twenty international trade agreements under the Act of 1934, the most recent being those with the United Kingdom and Canada. He said in part:

“Part of our effort when we negotiate a trade agreement is devoted to getting the other country to reduce the import duties which it imposes on our goods or, if it uses quotas, to allocate larger quotas to us. But also part of our effort is aimed at getting the other country to treat every product which we sell as favorably as it treats similar products from other countries—in other words, to give us fair and equal treatment.

“If, for example, the other country imposes a rate of 40% on our automobiles and a rate of only 25% on cars from one of our competitor countries, that is discrimination. Or if the other country, on deciding to limit its total importation of automobiles, gives us the right to supply only 30% of the total number it permits to be imported, whereas we formerly supplied 60% of the total imports, that is also discrimination.

“Discrimination can take many forms, and in the past decade it has been developed into a fine art. It is highly destructive of trade, and is usually much worse for the country discriminated against than would be a more severe trade restriction applied in a non-discriminatory manner, permitting all countries to compete on an equal footing.

“Prior to the trade agreements, our efforts to secure fair and equal treatment for our trade abroad were none too successful. In theory we pursued a policy of retaliation: The President under the Tariff Acts of 1922 and 1930 was empowered to impose higher duties on goods from

countries found to be discriminating against us, and, if desirable, to prohibit imports from them entirely. In practice, however, this authority was never once used although we were subject to numerous discriminations, for the exceptional height of our tariff and the fact that we never gave concessions made it hard for us to insist that all concessions exchanged between others be extended to us, while the fact that we sold to most countries more than we bought from them placed us in a very vulnerable position when it came to using strong-arm methods.

“Now, however, that unfortunate situation has been radically changed. Because we now grant reductions in our rates of duty, it really means something to other countries to secure non-discriminatory treatment in our market so that they may have these duty reductions extended to them. Whereas formerly we threatened retaliation if others did not give us equal treatment, which was something of considerable value, we now offer a valuable consideration in return—and, as might be expected, the result obtained is altogether different.

“I do not wish to lead you to believe that our exports now enjoy completely non-discriminatory treatment everywhere, for that is not the case. Discriminations still exist against us in several countries, particularly in Germany. But the situation is immeasurably better than it was before the trade agreements were undertaken.”

How to “Get in Right” with the Buyer

(Continued from page 32)

ing, invite her out to dinner. The boss will certainly appreciate the family spirit that you show.

Well, that call was a grand success and you will be most welcome there the next time—if you can get by the four machine guns that the buyer has waiting for you.

There is not too much exaggera-

tion in the above remarks, but let us look for a few more of your problems in a saner attitude.

Do not be misled into the pitfall of talking about lower prices. Talk quality and utility performance, for if your merchandise has quality, there will be an economic unit value that will level prices.

Tell the buyer even about the technical advantages of your products. He is undoubtedly qualified to understand them in a common-sense sort of way and he is willing to learn.

Help him to follow your market. Don't overload him and don't sell him great quantities if you know that in the near future there is a contemplated price decline.

The house with the right service is bound to win, so when you make delivery promises, do it with the knowledge that the promise will be fulfilled. If there is going to be a delay, state so, frankly.

The buyer has as many problems and worries as you have, so if you happen to call on him and he doesn't seem to be in the mood, postpone a real sales talk to a later, more propitious time.

Do not expect an order on your first call or attempt to force it. Build your groundwork for future calls and business as an intelligent, friendly basis.

Know the products that you sell. If you don't know the answer to the information that the buyer is seeking, frankly tell him and procure it later.

Remember this buying and selling is a cooperative venture, wherein each one obtains information that is of mutual benefit.

Always remember that a good buyer will not take advantage of you. He appreciates the fact that you obtained the order because your quality was satisfactory and your price right, and will treat with you accordingly.

Be yourself, shoot square with him and your house, and I am sure that you will find the buyer to be a real human person and one that you will enjoy doing business with, and that he will create a happy and profitable business for you.



*The next advertisement
in this series will appear
in Time, March 20*

Heritage and Tradition count —with Valves as well as with Men

● Heritage and tradition mold men and the products of men. Sound character usually has a background from which emerge ideals of mighty influence.

We are proud of the Reading-Pratt & Cady heritage, and of the traditions that have guided our policies through a long span of service to American industry. In maintaining the present high quality standards of all Reading-Pratt & Cady valves, we merely adhere to a policy laid down over seventy years ago in the first Pratt & Cady Catalog. In that catalog it was stated: "It is our aim to make all goods in the very best manner and of the best material."

During its long life Reading-Pratt & Cady has made many important improvements. But it has never been able to improve on that first principle.

Reading-Pratt & Cady Valves form one group of the 137 "Pedigreed Products" American Chain & Cable Company provides for American industry.

AMERICAN CHAIN & CABLE COMPANY, Inc.

BRIDGEPORT • CONNECTICUT



AMERICAN CHAIN DIVISION • AMERICAN CABLE DIVISION • ANDREW C. CAMPBELL DIVISION • FORD CHAIN BLOCK DIVISION • HAZARD WIRE ROPE DIVISION • HIGHLAND IRON AND STEEL DIVISION
MANLEY MANUFACTURING DIVISION • OWEN SILENT SPRING COMPANY, INC. • PAGE STEEL AND WIRE DIVISION • READING-PRATT & CADY DIVISION • READING STEEL CASTING DIVISION • WRIGHT MANUFACTURING DIVISION • IN CANADA: DOMINION CHAIN COMPANY, LTD. • IN ENGLAND: BRITISH WIRE PRODUCTS, LTD. • THE PARSONS CHAIN COMPANY, LTD. *In Business for Your Safety*



Some offices, like mince meat, contain a little of everything—in the line of typewriter supplies. The trouble is that the taste left by such a condition is *not* the satisfying flavor of mince pie.

Several brands of typewriter ribbons and carbon papers in an office merely reveal the uncertainty of the buyer as to which is best. They also reveal the fact that the office is probably *not* using the right ribbons and carbon papers—the result being needless expense, wasted time, inferior work, poor service.

The *right* typewriter ribbons and carbon papers for *your particular requirements* will give your office an entirely different result—and your cost sheet a mighty sweet flavor. Stop guessing about ribbons and carbons—just ask Columbia for a check on your needs and a recipe for your business. Columbia will see that you get the most for your money in

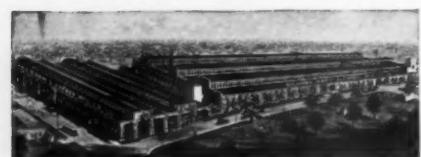
LENGTH OF SERVICE CLARITY OF WRITE
LEGIBILITY OF RESULTS
SUITABILITY FOR THE WORK REQUIRED

COLUMBIA
RIBBON & CARBON
MANUFACTURING CO., Inc.

Main Office and Factory
Glen Cove, L. I. New York

BRANCHES { New York, Chicago, Philadelphia,
Pittsburgh, Cincinnati, Nashville,
New Orleans, Kansas City, Milwaukee, Minneapolis

—also—
LONDON, ENGLAND MILAN, ITALY SYDNEY, AUSTRALIA



PERSONALITIES in the NEWS

M. G. L. HARRIS, Purchasing Agent and Jersey City Plant Manager of the Standard Gas Equipment Co., has resigned to become Purchasing Agent of the Detroit Brass & Malleable Works, Detroit, Mich., effective February 1. Mr. Harris has been with the Standard organization for thirty-four years, and has been in charge of purchasing for practically the entire period, having organized the purchasing department shortly after coming with the company. A pioneer and leader in association work, he joined the New York Association in 1915, a few months after its inception, and has served that organization as president and national director, and for five years as chairman of the executive committee. He has also served on the National Executive Committee of N. A. P. A., as Vice President from District No. 8. The officers of the New York Association gave a testimonial dinner for Mr. Harris, January 24th, at the Belmont Plaza Hotel.

MIMS W. HUTCHINGS of Birmingham has been appointed State Purchasing Agent for Alabama, a newly created office under the reorganization plan instituted by Gov. Frank M. Dixon. The new purchasing office will operate within the Department of Finance. Mr. Hutchings brings a long and successful experience in purchasing to the service of his state. He was assistant purchasing agent for the Woodward Iron Co. for 15 years prior to 1922, when he became purchasing agent for the DeBardeleben Coal Corp., in Birmingham, the position which he relinquishes to take up his new duties at Montgomery. He has been an active member of the Birmingham Association.

J. L. GOODSPED has been appointed purchasing agent and secretary of the Prescott Iron Works,

Seattle, succeeding E. S. Johnson, who has joined the sales organization of the Barde Steel Co.

WALTER DREW, formerly purchasing agent and traffic manager for the Jacob Ruppert Brewery, New York, has been appointed supervisor of deliveries in the metropolitan area.

C. R. M. SHEPPARD, Purchasing Agent of John B. Stetson University, De Land, Florida, addressed a conference of presidents, business managers, purchasing agents and maintenance officials of Florida Negro Colleges at Daytona Beach, January 20th.

BERT GRAVES, formerly general purchasing agent for the White Motor Co., Cleveland, and more

ALUMINUM OXIDE
SILICON CARBIDE
CORUNDUM
(AFRICAN)
TURKISH EMERY

Refiners and Makers
of

ABRASIVE GRAINS
AND
FLOURS

AMERICAN ABRASIVE COMPANY
WESTFIELD, MASS.

recently associated with the purchasing department of the Bender Body Co., has been appointed sales representative for the Bissett Steel Co. in the Cleveland area. Mr. Graves is a past president of the Cleveland Association.

CHARLES M. SEARS, JR., has been appointed State Purchasing Agent for Rhode Island, succeeding Col. P. Joseph Sullivan. A graduate of Dartmouth College and the Amos Tuck School of Finance, Mr. Sears for the past twelve years has been president and treasurer of the Short Line, Inc. He will continue as a director of that organization, though relinquishing the active management to devote his entire time to the State position.

CECIL R. LEAVENS of Marion, Ohio, has been appointed purchasing agent of the Ohio State Highway Department.

L. M. BARTON has been named assistant city purchasing agent at Houston, Texas, succeeding Hollis Jacobs, who becomes city secretary. Mr. Barton has had 32 years of experience as purchasing agent for the W. D. Cleveland & Sons Grocery Co. and the Desel-Boettcher Grocery Co.

LEON E. LAVINGTON of Flagler, Col., has been appointed State Purchasing Agent for Colorado. He succeeds J. C. Jankovsky, who has been named as a member of the State Civil Service Commission.

CHARLES J. STARK of Cleveland, has been named State Purchasing Agent for Ohio, by Governor Bricker, succeeding Glenn A. Horn. Mr. Stark is a graduate of Ohio State University. Formerly editor of *Iron Trade Review*, he became president of the Penton Publishing Co., Cleveland, and served for many years in that position.

ROBERT MORTON, Purchasing Agent and Traffic Manager for the W. P. Fuller Co., Seattle, has been elected to the board of directors of that company.

DONALD G. CLARK, whose appointment as general purchasing agent of the Gulf Companies was announced in this column last month, was guest of honor at a testimonial dinner in Providence, January 10th, attended by leaders in the many civic and business groups in which he has long been active.

CHARLES E. NEWMAN has been appointed purchasing agent and storekeeper for the City of Iola, Kansas, succeeding C. M. Thompson, retired.

W. DELL LOVE has been appointed purchasing agent for the Goldfield Consolidated Mining Co. of Alaska, with offices in the Crocker Building, San Francisco.

R. FLORES has been appointed purchasing agent of the Southern Pacific Railway of Mexico, succeeding R. C. Munguia. His headquarters are at Guadalajara, Jal, Mexico.

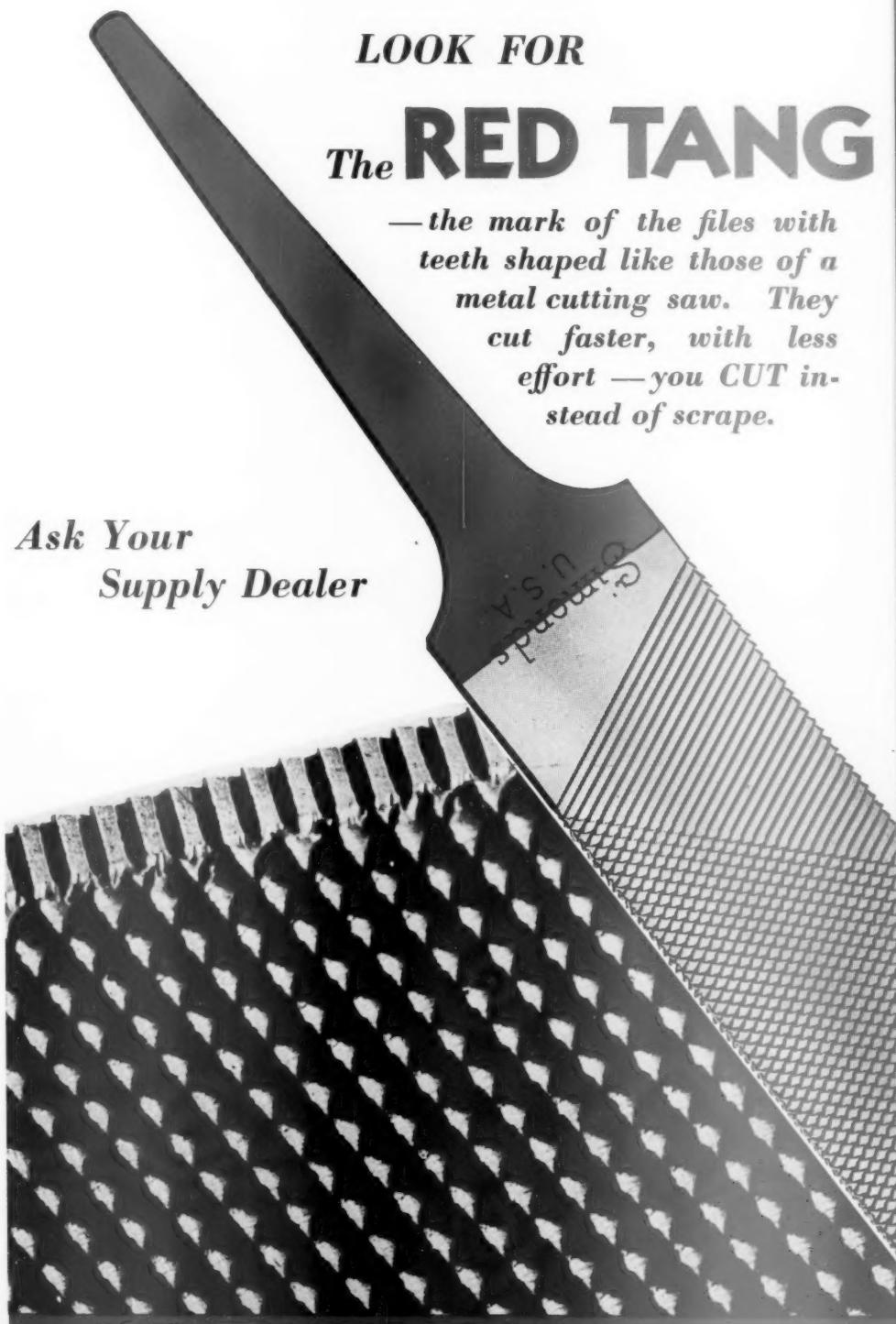
AUGUST FREY of Milwaukee has been named purchasing counsel to Governor Heil of Wisconsin. The

LOOK FOR

The RED TANG

—the mark of the files with teeth shaped like those of a metal cutting saw. They cut faster, with less effort —you CUT instead of scrape.

**Ask Your
Supply Dealer**



SIMONDS SAW & STEEL CO., Fitchburg, Mass.



Man Bites Dog!

That's NEWS!

In like manner, the success of MIKAH Glues has been built on gluing problems we haven't been able to solve . . . because they are so few and far between!

NATIONAL ADHESIVES CORPORATION

New York—Chicago—Philadelphia—Boston—San Francisco
and All Principal Cities

position is a newly created office. Mr. Frey's headquarters will be in the executive chambers at Madison.

RUSSELL ROBERTS has been appointed purchasing agent for the Seth Thomas Clock Co., Thomaston, Conn., succeeding David S. Potter, resigned. Mr. Roberts is a graduate of Purdue University, and for the past ten years has been associated with the purchasing department of General Times Instrument Corp., La Salle, Ill.

HARRY C. YOUNG has been appointed purchasing agent for the Delaware & Hudson Railroad, at Albany, N. Y., effective February 1. He has been with the D&H for thirty-seven years, and has served as acting purchasing agent for the past several months, succeeding Horace K. T. Sherwood.

WARREN O. HUNKINS has been appointed to the newly created office of City Purchasing Agent at Haverhill, Mass. The new de-

partment is being set up with the cooperation of the purchasing officials at Haverhill Boxboards, Inc.

FRANCIS G. MARTINEAU, formerly purchasing agent for the Sayles Finishing Co., Saylesville, R. I., has been appointed purchasing agent for Brown University, Providence, succeeding Edson R. Rand, who becomes assistant dean.

O. G. GLOVER of Canton, Ga., has resigned as assistant state Purchasing Agent to become secretary-treasurer of the State Highway Board.

EARL M. EVANS has been appointed purchasing agent for the National Coal & Coke Company, Birmingham, succeeding J. W. Kennedy.

HARLAN CROSS, formerly assistant purchasing agent for the Sloss Sheffield Steel & Iron Co., Birmingham, has been advanced to the position of purchasing agent for the company.

Obituary

ALEXANDER W. PERLA, Purchasing Agent of the American Chicle Co., Long Island City, N. Y., died suddenly on December 20th. Mr. Perla joined the New York Association in 1915, being at that time purchasing agent for the Sterling Gum Co., a subsidiary of the American Tobacco Co. When that company was taken over by the American Chicle Co. in 1916, he went with the latter organization and became its purchasing agent shortly thereafter.

D. FRANK BAIM, 62, Purchasing Agent of the Vulcanite Portland Cement Co., Alpha, N. J., died at the Easton, Penna., Hospital on January 2nd after a six weeks' illness. Mr. Baim was a past president of the Lehigh Valley Association.

ANTHONY E. SAUL, 60, formerly purchasing agent of the Pacific Car & Foundry Co., died at the

Providence Hospital, Seattle, on January 10th, following a stomach operation. Mr. Saul has been associated with the company for 28 years.

THEODORE F. JENSEN, 66, died January 15th in the Mountainside Hospital, Montclair, N. J., after a three month's illness. Mr. Jensen had been associated with the Anaconda Mining Co. for 44 years. He was formerly purchasing agent of the Andes Copper Mining Co., a subsidiary organization, in Valparaiso, Chile, and since 1924 was in the New York purchasing office.

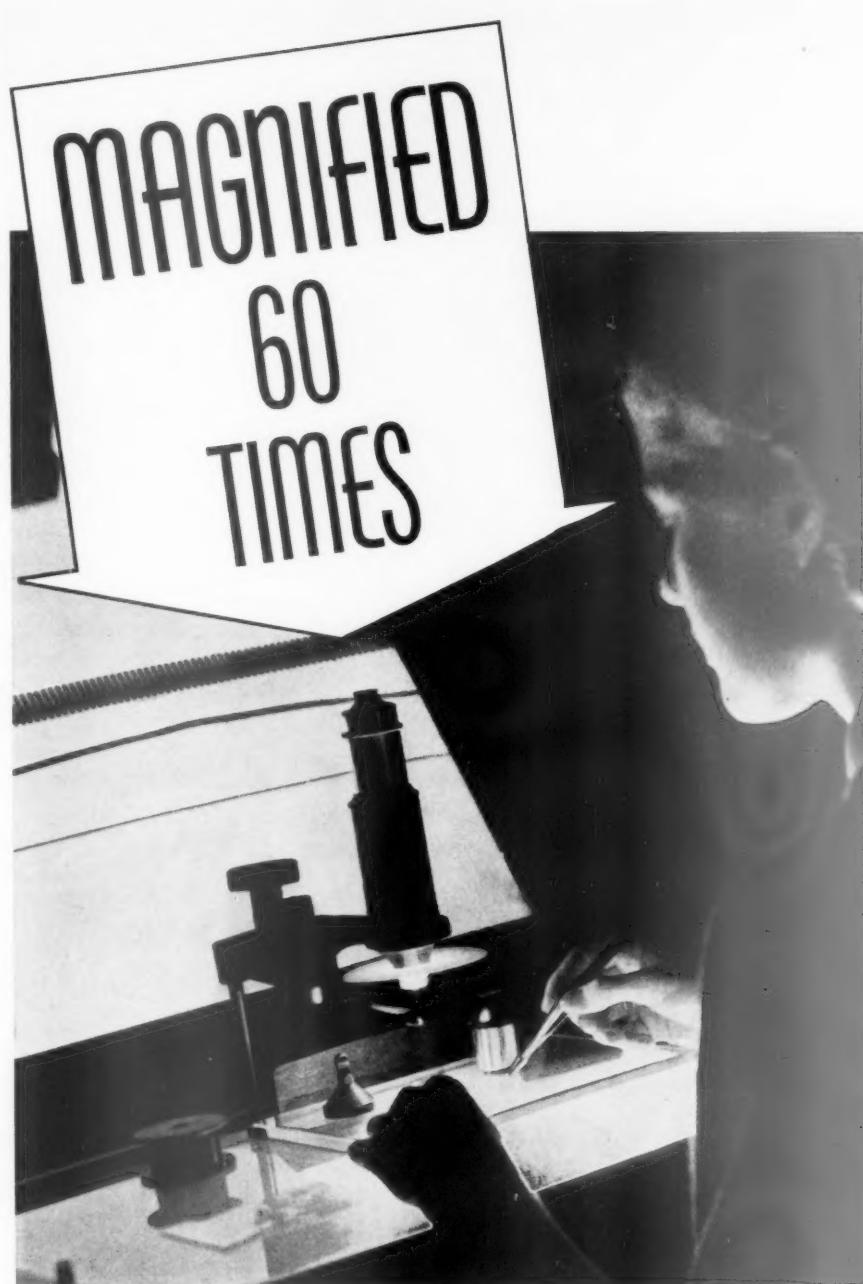
WILLIAM H. JOLLIE, 66, Purchasing Agent since 1901 for the Lorraine Mfg. Co., Pawtucket, R. I., died at his home in Saylesville, January 18th. He had been in ill health for the past two years.

THOMAS HAUGH, for the past twenty years purchasing agent for Yawman & Erbe Mfg. Co., Rochester, N. Y., died at his home in that city, January 25th, after an extended illness. Mr. Haugh was an active member of the Rochester Association.

STILLMAN G. WHITTAKER, 77, former purchasing agent for the Boston Typothetae Board of Trade, died at his home in Bedford, Mass., January 29th.

Testing Container Board

Any instrument used for measuring the strength of shipping container materials should give an average measure of the strength of the material over a considerable area. It should not be affected by the minor inequalities of the material. It should be a true average and not a measure of the weakest point. In a laboratory measurement of the quality of many materials, the weakest point of failure is of prime importance, but in the case of shipping containers this is not so. Any material from which a box is made could be punctured by innumerable small holes without effect on its quality as a general purpose box.



ONE OF THE REASONS why MAZDA lamps made by General Electric give more light in 1939 is the improved tungsten filament that burns brightly inside the lamp. Finer than a human hair, it is coiled into a tiny spiral, then magnified 60 times for final inspection. Above (top to bottom) a coiled filament, a human hair, an uncoiled filament. When you buy MAZDA lamps made by G-E you are sure of getting the benefit of the latest improvements in lamp bulb manufacture. General Electric Company, Nela Park, Cleveland, Ohio.



EDISON MAZDA LAMPS
GENERAL  ELECTRIC

Purchasing Agents Spend 58 $\frac{1}{2}$ ¢ of the Manufacturer's \$

Preliminary figures are now available from the biennial Census of Manufactures for 1937, compiled by the U. S. Department of Commerce under the supervision of William L. Austin, Director of the Bureau of the Census. The study is particularly interesting and pertinent at this time in view of the fact that forecasts for 1939 are generally agreed that the present year will closely approximate the volume of operations in 1937.

Excluding the returns from plants having an annual production valued

at less than \$5000, because they account for a negligible portion of the national output, the report covers the record of 116,793 establishments. The production of these plants, figured at net value, F.O.B. factory prices, and thus including "factory profits," amounted to \$60,710,072,958. The total value added by manufacture is estimated as something over 25 billion dollars.

Costs have been analyzed into four major component divisions. The cost of materials, containers, fuel, electric energy, and contract work amounted to \$35,536,139,648, or 58.53%; wages were \$10,112,808,089, or 16.65%; salaries were \$2,716,473,756, or 4.47%; the resi-

due of \$12,344,651,465, or 20.33%, covers overhead costs of all sorts, such as interest, rent, depreciation, taxes (except internal revenue taxes which are included in the cost of materials), insurance, advertising, and factory profits (but no profits from separate sales departments operated by manufacturing concerns).

Thus the figures show again that the purchasing agent's province represents the expenditure of 58 $\frac{1}{2}$ cents of the manufacturer's dollar, a greater share than labor, salaries, overhead, and all other expenses combined.

The breakdown of material costs has not yet been completed, but while that detail will be illuminating, there is nothing in the picture that will change the essential truth of the above statement regarding the responsibility of the purchasing agent in administering the largest part of manufacturing industry's total expenditures. Management of large scale industry, where the purchasing function has been segregated and organized, will recognize all of these factors—materials, containers, fuel, energy, and contract work—as coming within the jurisdiction of the procurement department. The Census Bureau, after careful analysis of the conditions represented by the figures, has quite properly come to the conclusion that all of these items, including the cost of contract work, are "in effect, a part of the cost of materials as delivered at the factories, in the respective industries."

At a later date, the costs of contract work will be segregated from the total cost of materials. In the 1935 census, this item amounted to less than half a billion dollars. The volume of the principal factors in the 1937 census ranges from 34% to 38% higher than in the previous census, so that a figure of an even billion dollars for this item in 1937 would probably be far in excess of the fact, and even this very liberal estimate would account for only 1.65% of the 58.53%. It is also to be noted that in this factor, separately considered in connection with the various contracting industries, would show at least a com-

"The Blade in the Plaid Box"

Regardless of the many claims made for hacksaws today LENOX quality and uniformity in "HIGH SPEED," "MO-SPEED," "TUNG-STEN" or "SUPER-FLEX" on cut for cut, blade for blade basis more than hold their own on any job, any time, any place. There is a LENOX BLADE for every metal cutting job. They are sold by distributors everywhere.

Have you tried them?

AMERICAN SAW & MFG. CO. Springfield, Mass.

parable figure going into the cost of materials.

The total figures for value of output, and for material expenditures, naturally include some duplication due to the fact that the finished product of one industry may become the purchased material of another. For example, a foundry buys iron and produces castings, an electrical manufacturer may buy the castings to make a motor, and a machine tool builder may buy the motors for attachment to his equipment. Thus the original cost of the iron appears three times in the published total. There are scores of cases in the use of fabricated and semi-fabricated parts where a similar progressive use of the identical basic materials may be found. The Census Bureau concedes that such duplication represents "large but undeterminable amounts." The effect of that situation has been carefully weighed, with the conclusion that: "This duplication occurs, as a rule, between different industries, and is not found to any great extent in individual industries." Since each factor is separately computed for each industry, i.e., cost of materials, etc., in relation to the net factory value of output in that industry, the validity of the total ratios is not affected.

Pacific Shipping

In spite of a generally depressed condition in ocean-borne commerce throughout the world, keen competition is developing for the Pacific trade, with American, Japanese and Swedish shipping lines actively competing for this business and planning greatly increased facilities to go into service during the present year. Two Swedish motorships start on the Pacific-South America run this month; four American swift freighters are planned for the same route, and three Japanese liners are being transferred to include this service in connection with their regular trips to the Orient. Twelve new liners are being built for trans-Pacific service, and two new Swedish motorships are scheduled to begin a run from the Pacific Coast to South Africa in May.

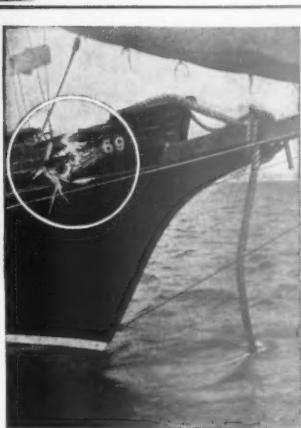


*Rope tough enough to saw through oak—

that's PLYMOUTH Ship Brand Manila

HURRICANE!—slashing the New England coast with tropic fury...smashing houses, piling harbors full of wreckage...Few lucky boats survived that storm. But Plymouth mooring line saved the Friendship Sloop "Little Andree." John J. Gallagher, the owner, writes, "The terrific wind and heavy sea put such a strain on the rope that it tore out the heavy chock and cut down through the oak rail and forward bulwark! My Plymouth mooring line was hardly frayed."

PLYMOUTH CORDAGE COMPANY
North Plymouth, Massachusetts and Welland, Canada
Sales Branches: New York, Boston, Baltimore, Philadelphia, Chicago, Cleveland, Houston, San Francisco.



*Here is photographic evidence of the extraordinary stamina of Plymouth Ship Brand Manila Rope! Strength to withstand tremendous stress and strain and to resist abrasive wear is a dominant quality of Plymouth Ship Brand Manila Rope. Such tests as that of the hurricane are infrequent; but when they come, Plymouth again proves to be "The Rope You Can Trust." Not only in marine emergency but in the many tasks that rope performs in Industry, Plymouth's greater strength means greater safety, longer life and consequent economy.



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Forms. Both Shift and Non-Shift Books.

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ARMSTRONG

WRENCHES for all purposes!

No matter what the purpose, there is an Armstrong Wrench for every job. More than 65 different types, each in all sizes. Made of finer steels, high carbon or chrome vanadium, heat treated to exact requisites of stiffness and strength...assuring greater strength and longer service.

Standardize on ARMSTRONG Wrenches for improved designs, tool balancing, accurate millings machining and finish.

For economy and satisfactory service buy ARMSTRONG Wrenches. Do not enter into any wrench contracts until you have talked to an Armstrong Salesman or have read the ARMSTRONG Wrench Catalog.



Comparative Tests

(Continued from page 39)

ing the lowest temperature the maximum number of points you have allotted to the heat factor. The other samples would score a proportion of that number of points according to how their temperature test results compared with those of the tire which tested best in that respect (in inverse ratio).

Perhaps the next test on the sample tires is to be for sidewall bursting strength. This time the sample that has the highest bursting point scores the maximum number of points you have allowed for that factor and each of the other samples of less number of points in direct proportion to their bursting strength as compared with that of the best.

And so on through the rest of the tests. In casual testing without using such a chart one is apt to over-emphasize, when drawing his conclusions, some one test or factor or feature to the exclusion of due regard for the other tests, factors, or

features. By setting up in advance a scoring scale which gives to each quality tested its proportionate or relative value in the total consideration, we get a composite result which automatically preserves an equitable balance between the qualifications required of the particular article we are about to purchase.

When setting up the scoring chart and establishing the relative values of the various tests it is necessary to remember that there are differences in *degree of variation* which must be given due consideration. The results of one of the tests may show a *slight* variation from the poorest to the best sample yet that slight variation may be of extreme importance. Another test may give a *wide* variation of results which will be of minor importance. Then if the scoring is not properly set up with this in mind, a large spread of difference on a small scoring factor may outweigh a small spread applied to a large scoring factor.

Scarcely ever will one sample

score highest in all the different tests but if you have properly weighted the various factors, each represented by a test, the total of the individual scores will unfailingly reveal the tire that is the best for your work.

Now, where does *price* come in? You are right. It is just one of the factors. It is scored (in inverse ratio) just like the other factors. The weighting of this factor, price, is very important and brings up the whole field of the economics of price. If too great a part in the total score is given to price you will soon be buying merchandise that is costly because it is too cheap. If too little a part in the total score is given to price it will mean that you are paying more for that extra margin of quality than that extra margin is actually worth. In order to keep price about in balance with quality, give it a value about equal to the *total* points in the scores for tests of quality.

If this way of selecting products and sources seems to you to be too mechanical, tending to supplant good judgment with theoretical abstractions and mathematical computations, think it through again. There is no intent to deprecate good judgment, experience and a sound buying policy—indeed it is intended rather to crystallize good judgment confirmed through impartial tests into an expression that is much more positive by reason of the weighted evaluation carefully worked out in advance. Thus we *conserve* the values of independent judgment regarding two or more somewhat unrelated factors and free that judgment from the prejudices and favoritisms and the other shortcomings that the flesh is heir to.

Scoring formula: $S = SF \times \frac{TR}{TRB}$

S = Score

SF = Score Factor

TR = Test Results of sample

TRB = Test Results of sample which tested *Best* in that particular test

Scoring formula (inverse ratio):

$S = SF \times \frac{TRB}{TR}$

Lumber Marketing

(Continued from page 31)

the different kinds of lumber which they stock come from different localities. Thus, for instance, hard pine flooring comes from the South, fir flooring from the West Coast, cedar shingles from the state of Washington and Canada, hard wood from the northern and northeastern states and white pine from the same region and the lake states.

In some cases the finishing mills and retailers buy direct from the producers, but by no means always. In the lumber industry, the terms broker and commission house are not used very much. These men are usually referred to as wholesalers. The lumber industry is roughly divided into four parts—producing, manufacturing, wholesaling and retailing, which has come about as a result of the inherent conditions in the industry.

Such large wholesalers are located in the large cities and obtain lumber from all parts of the country. They sell to the bigger dealers or local distributors, and to finishing mills in the smaller cities, who in turn sell to the small dealers or small dealer-producers who do the retailing.

Some of the large lumber companies such as those on the West Coast have their own wholesaling establishments, and maintain distributing yards at central points to which they ship by boat wherever practicable. If a finishing mill, or manufacturer, for instance, wants a carload of miscellaneous lumber, it will obtain it from such a distributing yard where all kinds of lumber are stocked and gathered together at one point from, say, red cedar mills, fir mills, hardwood mills, etc., located in different parts of the country.

Distributing yards are also operated by independent wholesalers. They also are located wherever possible at ports, frequently at inland points like Albany, N. Y., and also obtain their merchandise from all over the country. They sell to the finishing mills and retailers, usually on a commission basis for

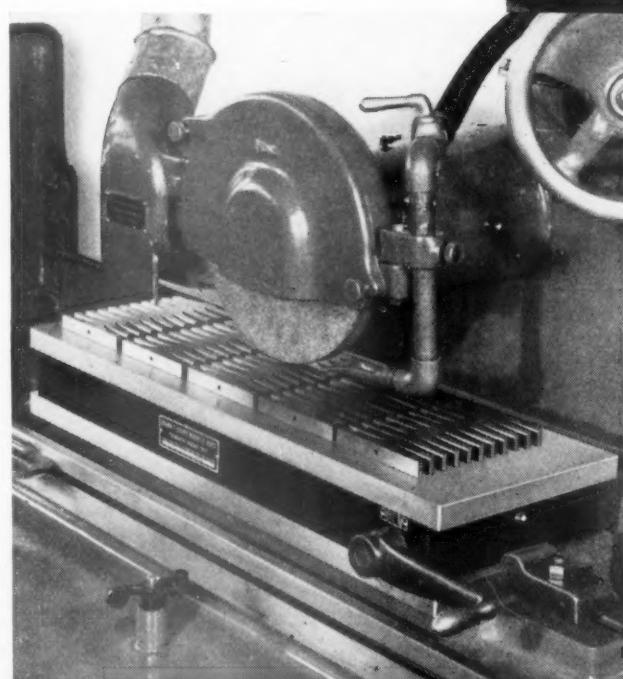
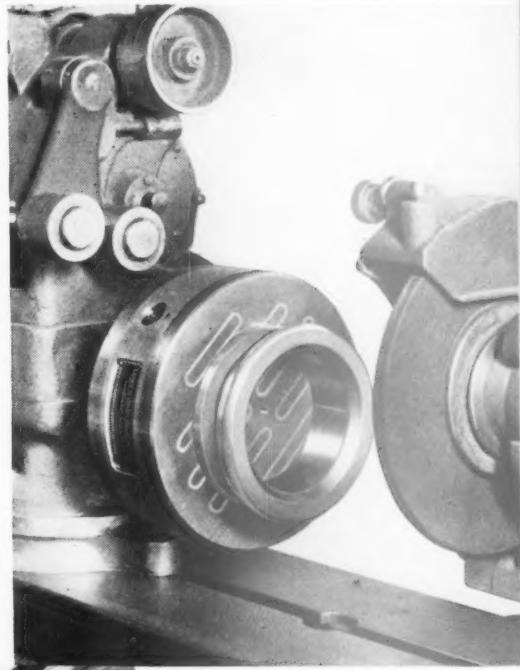
the producers, and handle the credits. As a rule they try to sell the cargo before its arrival. Thus it will be seen that the distributing yards are set up to serve the retailer, and the retailer in turn to serve the industrialist and manufacturer, although in some cases where the material is used for further fabrication by industrialists, the latter are served by the wholesaler in addition to being served by the retailer.

The wholesaler, with his capital investment, helps both the manufacturer and the retailer to finance. He employs a large number of

salesmen whose business it is to promote the sale of lumber and, by handling a number of different species, reduces the selling expense for a majority of the manufacturers who would otherwise be unable to reach their natural market, because of the cost of selling only their own products. At the same time the wholesaler enables the retailers to purchase what they require to much better advantage, in many cases, and gives them better service than they would usually be able to secure for themselves if they were compelled to dig out their own more or less distant and scattered sources

Now . . . Two Models

**BROWN & SHARPE
MAGNETIC CHUCKS
Permanent Magnet Type**
*Outstanding —
in Economy
Simplicity
Convenience*
**No Wires — No Heating
No Running Costs**



Rotary Model (ABOVE)

... a new addition — for face, disk, external and internal grinding — also for light cuts on lathe work and other operations.

Working face—9" dia.

— Ask for Circular —

Rectangular Model (LEFT)

... besides their popularity for Surface Grinding — wet as well as dry — these chucks are readily portable for many uses.

Three sizes —
5" x 10" 6" x 18" 8" x 24"
Adapter Plates available for holding
Small Pieces — Ask for Circular —

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A word will bring our certified Representative. Or, send us your paper forms for expert analysis and recommendation of proper ribbons, carbons, stencil inks.

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Why isn't efficiency in the shipping room just as important as in your production department? Surely a modern parcel post scale is just as important as any modern machine. The new Post-O-Meter is the last word in every respect—it

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Just place a package on the platform—press the key—there's only one figure—the correct postage—instead of looking at 630 confusing figures.

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of supply. The wholesaler devotes his entire attention and time to the needs of the buyer and producer and in this manner serves both in an economical and otherwise helpful way.

Purchasing Course at Oakland

The Extension Division of the University of California, at Oakland, is presenting a course in Purchasing, Principles and Practices, with the cooperation of the Northern California Association. Coming within the Department of Economics, the course outline is given as follows:

Economics 870AB—Purchasing, Principles and Practices. The principles of purchasing and the purchasing practices now being used in industrial plants. The course will discuss from a practical standpoint the following: Place of the purchasing department in a business organization; the organization of a purchasing department; purchasing procedure; buying the right quantity; buying the right quality; buying at the proper price; profitable relationship with vendor; relation to other departments; the legal phase of purchasing; transportation as it affects purchasing; qualifications of a purchasing agent.

Roland W. Peterson, Purchasing Agent for Durkee Famous Foods, Berkeley, and co-chairman of the Association's Educational Committee, is director of the course. The first session was held on Tuesday evening, January 17, and the course will continue for fifteen weeks.

E. A. CLIFFORD, Purchasing Agent of the Chicago & Northwestern Railway, addressed the Western Railway Club at St. Louis, January 16th, discussing the increasing use of motor trucks in railway service.

WILLIAM W. AUSTIN has been appointed purchasing agent of the Wyoming State Liquor Commission, succeeding L. C. Griffin.



On Lubrihides
the Colonel glides,
No friction slows
his pace,

With Built-in
Lubrication,
He always wins
the race.

PRODUCTION GLIDES SMOOTHLY WHEN
BELTS ARE JOINED WITH . . .

LUBRIHIDE PINS



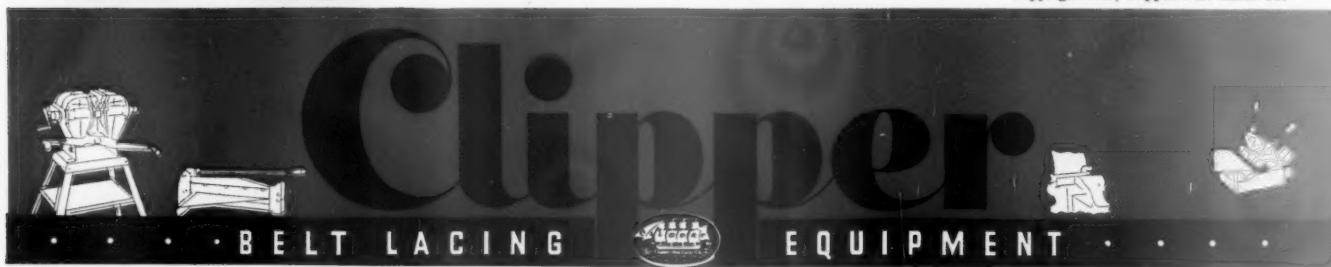
Don't wait for breakdowns. It will pay you to replace other types of pins, systematically, with Clipper Lubrihide Pins, whenever belts are idle.

Avoid costly delays by using belt joint pins that last 2 to 4 times longer! Clipper LUBRIHIDE PINS are the biggest bargain ever offered for economical belt operation. Made of high-gluten content rawhide—the toughest, most durable material known for belt joint pins—with the added tremendous advantage of BUILT-IN Lubrication. They not only wear much longer—they also add materially to the life of the joint itself, because frictionless oscillation reduces fatigue strains on the hooks. Shipped as standard with ALL Clipper Hooks. Sold for replacements in handy, inexpensive packages. Order from your mill supply jobber today!

LUBRIHIDE PINS are New! Different! Profitable!

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Among the Associations

NEW OFFICERS FOR CANADIAN ASSOCIATIONS

Officers for 1939 have been elected by several of the Canadian groups as follows:

Hamilton Association: *President*, A. C. Kay of Firestone Tire & Rubber Co. of Canada, Ltd.; *Vice Presidents*, C. R. McNeil of Fuller Brush Co., Ltd., and G. A. Ireland of National Paper Goods, Ltd.; *Secretary*, C. Barlow of Norton Co. of Canada, Ltd.; *Treasurer*, J. Frank Walker of Frost Steel & Wire Co., Ltd.; *National Director*, W. P. Tinsley of Ly-saght Dominion Sheet Metal Corp., Ltd.; *Executive Committee*, O. D. Southwick of National Steel Car Corp., Ltd., A. H. Tallman of Tallman Bronze Co., Ltd., and Alex Yule of Burgess Battery Co.

Niagara Peninsula Branch: *Chairman*, J. G. Sexton of McKinnon Columbus Chain, Ltd., St. Catharines; *Vice Chairman*, Alex Yule of Burgess Battery Co., Niagara Falls; *Secretary-Treasurer*, John A. Joyce of Alliance Paper Mills, Ltd., Merritton; *Directors*, George S. Green of Provincial Paper, Ltd., J. Williamson of The Yale & Towne Mfg. Co., Horace Cluderay of United Steel Corp., Ltd., C. H. Randall of Atlas Steels, Ltd., Keith C. Reece of Canadian Carborundum Co., Ltd., and J. R. Hamilton of Dominion Chain Co., Ltd.

Central Ontario Branch: *Chairman*, T. H. Ainlay of The B. F. Goodrich Rubber Co. of Canada, Ltd.; *Vice Chairman*, C. B. Bromberger of Canadian Blower & Forge Co., Ltd.; *Secretary-Treasurer*, Albert Brubacher of The Breithaupt Leather Co., Ltd.; *Executive Committee*, C. W. P. Curzon of Cluett, Peabody & Co. of Canada, Ltd., H. E. Lachman of Dominion Life Assurance Co., F. E. Mason of Preston Noelting, Ltd., and H. L. Anderson of Dominion Electrohome Industries, Ltd.

JANUARY 3

Oakland—Luncheon meeting of the **East Bay Group, Northern California Association**, at the Lake Merritt Hotel. Colored motion picture, "Winter Sports in Yosemite."

JANUARY 5

Birmingham—Luncheon meeting of the **Birmingham Association**, at the Redmont Hotel. Joe Penick, Purchasing Agent of the First National Bank, led a discussion on printing.

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Techni-

color picture, "Out of the Spirit of '49," presented through courtesy of the California Packing Corp.

Salt Lake City—Dinner meeting of the **Utah Association**, at the University Club. Discussion of the business outlook for 1939, based on a summary of opinions issued by the N. A. P. A.

JANUARY 10

Cincinnati—Dinner meeting of the **Cincinnati Association**, at the Hotel Gibson. Speaker: Attorney Robert G. McIntosh, "The Wage and Hour Bill."

San Francisco—"Executives' Night" meeting of the **Northern California Association**, at the Elks Club. Speaker: A. W. Zelomek of New York, President of the International Statistical Bureau, "World Crisis and the American Raw Material Supply."

New York—Monthly dinner meeting of the **Metro-politan Purchasers' Assistants Club**, at the Hotel Great Northern. Speaker: L. Barnett of the New York Better Business Bureau, "Protecting Public Confidence in Business." Motion picture on the manufacture of abrasives, shown through courtesy of the Carborundum Co.

Tulsa—Dinner meeting of the **Tulsa Association**. New officers for 1939, as announced in this column last month, were installed. C. M. Taylor, National Director, reported on the December meeting of the District Council, held in Dallas.

Indianapolis—Meeting of the **Indianapolis Association**. Speaker: Dr. Max A. Blair, Superintendent of the Central State Hospital, "What Can be Done for Crippled Minds?"

Vancouver—Dinner meeting of the **British Columbia Association**, at the Hotel Vancouver. C. Kirby of Vancouver Hospital spoke on the history and development of catgut as used in modern surgery. Motion picture, "Design for Power" presented by courtesy of the Imperial Oil, Ltd., with explanatory talk by Messrs. Maurice Corkill and Norman Grainger of that company. Travel picture, "Safari on Wheels."

Milwaukee—Dinner meeting of the **Milwaukee Association**, at the Elks Club. Purchasing clinic on the topic, "Price Bargaining and Competitive Bids."

JANUARY 11

Springfield, Ohio—Dinner meeting of the **Spring-field Association**, at the Heaume Hotel. Round table discussion of commodity conditions.

South Bend—Monthly meeting of the South Bend Association. Charles S. Davis, assistant manager of the local field office of the Social Security Board, explained the workings of social security legislation.

JANUARY 12

Chicago—“Past Presidents’ Night” meeting of the Chicago Association, at the Hotel Sherman, at which the leaders of the association during the 23 years of its existence were guests of honor. Speaker: George A. Renard, Executive Secretary of the N.A.P.A., “From One P. A. to another.”

Seattle—Dinner meeting of the Washington Association, at the Washington Athletic Club. Illustrated talk on “The Narrows and Mercer Island Bridges,” by Ray Dinsmore, office engineer of the State Highway Department.

Los Angeles—Dinner meeting of the Los Angeles Association, at the Elks Club. L. T. Bleasdale of Zellerbach Paper Co., Chairman of the Educational Committee was in charge of the program. Speakers: William A. Riley, Assistant Postmaster; Frank Huber, Director of Parcel Post; and Blaine Driscoll, Foreman, Second Class Section: “The United States Postal Service.”

Philadelphia—Dinner meeting of the Philadelphia Association, at the Bellevue-Stratford Hotel. Major B. Foster, President of the Alexander Hamilton Institute, spoke on credit control as a factor in 1939 business. The meeting was preceded by an afternoon business forum.

Buffalo—Annual “Salesmen’s Night” dinner meeting of the Buffalo Association, at the Hotel Lafayette. Joseph L. Andrews of New York Addressed the meeting on “Human Values in Buying and Selling.”

Birmingham—Luncheon meeting of the Birmingham Association, at the Redmont Hotel. Speaker: E. A. Thomas, President of Thomas Foundries, Inc.: “Alloyed Cast Iron for Heat Resisting Purposes.”

JANUARY 14

Kansas City—Twentieth annual dinner dance of the Kansas City Association, at the Hotel Muehlebach. New officers for 1939, as announced in this column last month, were installed at this occasion.

JANUARY 16

Boston—Dinner meeting of the New England Association, at Schrafft’s. Speaker: Dr. Allen A. Stockdale, National Association of Manufacturers, “The Future of America.” The meeting was preceded by an afternoon session at which a sound film, “The Fourth Kingdom,” was presented through courtesy of the Bakelite Corp.



We present—

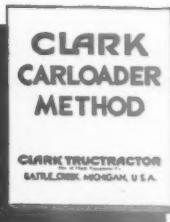
CLARK CARLOADER

—a new power tool for handling materials—an integral part of the Clark Carloader Method of handling unit-package freight. It's an instrument enabling the Purchasing Agent to adopt a new buying technique. By its use he becomes a more powerful factor in lowering the costs of finished goods.



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Write for a copy of The Clark Carloader Method. It outlines a method and a means that give the Purchasing Agent a commanding place in Industry.



CLARK TRUCTRACTOR

Div. of Clark Equipment Co.
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IT SEALS FASTER!

IT'S VEJO-GUMMED SEALING TAPE

- Vejo-Gummed Sealing Tape will speed up shipping room production. Water quickly covers the all-vegetable gumming in a thin, even sheet, taking advantage of every bit of adhesive. The moistened tape sets quickly and adheres permanently. Vejo-Gummed Sealing Tape is tasteless and odorless. Write today for detailed information and free sample roll. No obligation.

THE BROWN-BRIDGE MILLS, INC.
TROY OHIO

RED STREAK TAPE
WITH THE RED STREAK CORE

Red Streak
SEALING TAPES

**LEAVES
NO
STONE
UNTURNED**



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OAKITE
Certified **CLEANING**
MATERIALS & METHODS FOR EVERY CLEANING REQUIREMENT

JANUARY 17

Huntington, W. Va.—Dinner meeting of the Tri-State Association. W. M. Langstaff, Lighting Engineer for the Appalachian Electric Power Co., spoke of modern developments in lighting, polarizing, etc.

Akron—Plant visit of the Akron Association, at the new 98" mill of the Republic Steel Co., Cleveland.

New York—Dinner meeting of the New York Association, at the Builders Exchange Club. Speakers: Dr. Isador Lubin, Commissioner of Labor Statistics, U. S. Dept. of Labor, "What the Purchasing Agent Should Know About Labor;" Charles F. Darlington, Jr., Assistant Chief, Division of Trade Agreements, U. S. Dept. of State, "Aspects of the United Kingdom and Canadian Trade Agreements." S. T. Edgerton of U. S. Rubber Products presided at an afternoon forum on the topic, "Analyzing the Seller's Cost Prior to Purchase."

Pittsburgh—Dinner meeting of the Pittsburgh Association, at the William Penn Hotel. Speakers: H. M. Cooper and R. F. Abernathy of the Pittsburgh Laboratory, U. S. Bureau of Mines. A sound film, "Know Your Coal," was presented through courtesy of the Consumers' Counsel, National Bituminous Coal Commission.

St. Louis—Dinner meeting of the St. Louis Association, at the Hotel York. Speaker: Roy Wenzlick, President and Publisher of Real Estate Analysts, Inc., "Real Estate—The Coming Building Boom and Its Effect on Industrial Purchasing."

Oakland—Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. Speaker: Dr. Albert G. Clark, "What the CCC Has Done for the American Youth."

Louisville—Dinner meeting of the Louisville Association, at the Kentucky Hotel. Speaker: Joseph W. Nicholson of Milwaukee, President of the N.A.P.A.

Hartford—Dinner meeting of the Hartford County Association, at the Hotel Bond.

Salt Lake City—Dinner meeting of the Utah Association, at the University Club. J. F. Meyer of Portland, District Vice President, was guest of honor and principal speaker.

JANUARY 18

Detroit—Dinner meeting of the Detroit Association, at the Detroit Leland Hotel. Speaker: Dr. W. R. Veazey of Dow Chemical Co., "The Human Side of Chemistry."

Boston—Visit of the New England Association, at the "Motor Clinic" of the Ethyl Gasoline Corp. A dramatic demonstration of various types of motor fuel, and actual performance tests were shown.

Baltimore—Dinner meeting of the **Baltimore Association**. Sound motion pictures showing the manufacture of telephone materials in the plants of the Western Electric Co. and views of the New England hurricane of 1938. Plans were made for the San Francisco convention, where the Baltimore group hopes to gain permanent possession of the New Orleans attendance cup.

Erie—Dinner meeting of the **Erie Association**, at the Barn. Speaker: J. Lloyd Mahony, Director of the Erie Center, University of Pittsburgh, "An Attack on Mediocrity."

Canton—Dinner meeting of the **Canton & Eastern Ohio Association**, at the Elks Club. Commodity discussion, and brief talks on company products and materials by David L. Glass of Hoover Co., Ralph R. Miller of Deming Co., and Peter Voss of Timken Roller Bearing Co.

JANUARY 19

Cleveland—Dinner meeting of the **Cleveland Association**, at the Cleveland Hotel. Speaker: Supt. Arthur G. Roth of the Cleveland Police Dept. Sound film, "Approved by the Underwriters."

San Francisco—Luncheon meeting of the **Northern California Association**, at the Palace Hotel. Speaker: A. W. Copley, Westinghouse Electric & Mfg. Co., "Recent Developments in Non-Ferrous Metals and Their Application to Industry."

Toledo—Dinner meeting of the **Toledo Association**, at the Waldorf Hotel. Speaker: Ira I. Brought, Toledo agent of the U. S. Secret Service: "Counterfeit Money." The meeting was preceded by an afternoon session on commodity markets.

Birmingham—Luncheon meeting of the **Birmingham Association**, at the Redmont Hotel. Speaker: John Terry Badham of the Badham Insulating Co.: "Insulation."

Springfield—Annual dinner dance of the **Western Massachusetts Association**, at the Hotel Kimball.

JANUARY 23

Bethlehem—Dinner meeting of the **Lehigh Valley Association**, at the Bethlehem Club. Speaker: George A. Renard, Executive Secretary of the N.A.P.A., "From One P. A. to Another."

Providence—Dinner meeting of the **Rhode Island Association**, at the Narragansett Hotel. Speaker: Professor George H. E. Smith, Yale University economist.

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DIVISION HUDSON PULP & PAPER CORP.
220 EAST 42nd ST., NEW YORK CITY

Reading—Dinner meeting of the Reading Association, at the Iris Club. Speakers: Joseph W. Nicholson of Milwaukee and W. W. Irwin of Rochester, President and Vice President of the N.A.P.A.

JANUARY 24

Oakland—Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. "The Squaw That Scratches," Death Valley shown in sound and color, through courtesy of the Union Oil Co. of California.

Tulsa—Plant visit and buffet supper of the Tulsa Association, at the Hinderliter Tool Co. plant.

Syracuse—"National Association Night" dinner meeting of the Syracuse & Central New York Association, at the Hotel Onondaga. Speakers: Joseph W. Nicholson of Milwaukee, National President, "National Association Affairs"; and W. W. Irwin of Rochester, District Vice President, "Program and Attendance at Meetings." A sound film on the manufacture of aluminum was shown through courtesy of the Aluminum Co. of America.

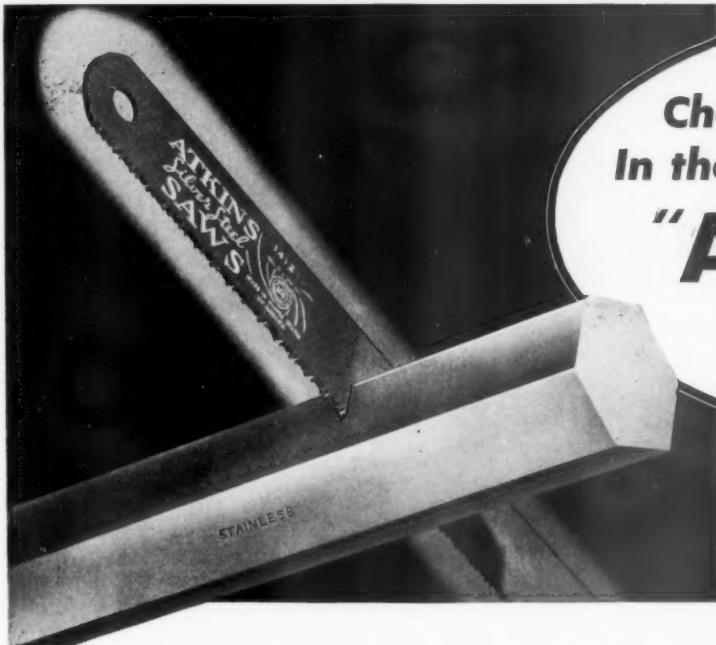
Waterbury—Dinner meeting of the Connecticut Association, at the Hotel Elton. Speakers: J. M. Brown, Purchasing Agent of Veeder-Root, Inc., "Centralized Catalog Filing"; and Herbert N. McGill, President of McGill Commodity Service, "The Economic Situation."

JANUARY 25

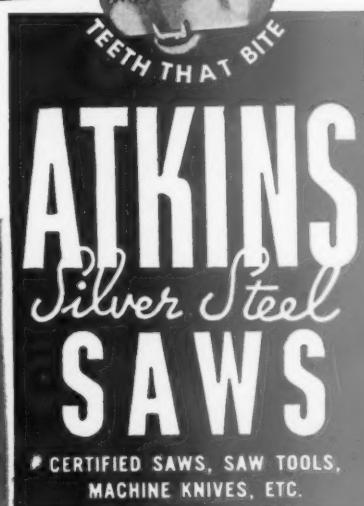
Indianapolis—Dinner meeting of the Indianapolis Association, at the Athenaeum. Motion picture, "Know Your Coal." Plans were completed for the annual exhibit of industrial materials, to be held in the Manufacturers Building at the Indiana State Fair Grounds, February 14-17.

Rochester—Industrial Products Exhibit sponsored by the Rochester Association, at the Powers Hotel. J. W. Nicholson of Milwaukee, N.A.P.A. President, addressed a luncheon meeting on "The

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In the Shop...and you'll find
"ATKINS"
Cost Less!



• The purchasing department's records of price, size and make are supplemented by shop records which reveal the true cost. On this basis, as thousands of users will gladly testify, the "Silver Steel" and tough teeth of Atkins Hack Saw Blades win out, wherever comparisons are made. Unless you already have made this discovery try a box of "Blue Ends" (or, for "moly" blades, "Yellow Ends")—and keep a check on them through the shop.

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Educational Program of the N.A.P.A. Speaker at the dinner meeting was Dr. J. S. Thomas, President of the Clarkson Memorial College of Technology and of the Chrysler Institute, "Techniques and Tactics."

JANUARY 26

San Francisco—Luncheon meeting of the Northern California Association, at the Palace Hotel. Speaker: Baldwin Vale, patent attorney, "The Making of a Talking Picture, or the Reality Behind a Popular Illusion."

Albany—"National Night" meeting of the Eastern New York Association, at the Fort Orange Club. Joseph W. Nicholson of Milwaukee and Warren W. Irwin of Rochester, President and Vice President of the N.A.P.A., spoke on national association affairs.

Birmingham—Luncheon meeting of the Birmingham Association, at the Redmont Hotel. Harlan Cross, Purchasing Agent of the Sloss Sheffield Steel & Iron Co., led a discussion on "The Use of Contracts."

Kalamazoo—Luncheon meeting of the Kalamazoo Association, at the Columbia Hotel. Speaker: James O. Knauss, Instructor in United States History at the Western State Teachers College, "The Lima Conference."

Seattle—Plant visit of the Washington Association, at the Washington Furniture Mfg. Co.

JANUARY 31

San Francisco—"Ladies' Night" dinner meeting of the Northern California Association, at the Western Women's Club. Rodman C. Pell, President of the Pelican Paper Co., gave the premier showing of his new colored film, "Palestine Under Martial Law."

Oakland—Luncheon meeting of the East Bay Group, Northern California Association, at the Lake Merritt Hotel. William G. Paden, Superintendent of Schools, City of Alameda, continued his talk on "The Oregon Trail."

Utility Group Meeting

The midwinter meeting of the Public Utility Group, N.A.P.A., took place at the Waldorf Astoria Hotel, New York, February 9 and 10. A report of the proceedings will appear in the March issue.

C. H. TUTTLE has been appointed Superintendent of the Purchase and Stores Division, Standard Oil Company of Texas, with headquarters at Houston. He was formerly purchasing agent for the Pacific Gasoline Company and Standard Gasoline Company at Los Angeles, and for the past eight years has been assistant general storekeeper for all subsidiaries of the Standard Oil Company of California, with offices at San Francisco.



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SEYMOUR Phosphor Bronze, an alloy of copper, tin and phosphorus, stubbornly resists corrosion from fresh and salt water, mild acid solutions and certain gases. Extremely tough, it will undergo almost innumerable flexures. All of which makes it ideal for the manufacture of springs that must not "freeze" or weaken prematurely. Catalog on request.

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Complete Steam and Process Piping Systems Fabricated and Erected

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Welded Stainless Steel Piping, Tanks and Vessels

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PITTSBURGH PIPING AND EQUIPMENT CO.

10 FORTY-THIRD ST. PITTSBURGH, PA.

E. Van Vechten

(Continued from page 26)

APPROACHABLE, SOCIALE, co-operative, he is popular among a wide circle of friends. To most of his intimates he is known simply as "Van." A few pals of the old days still refer to him as "Slim," a nickname once appropriate enough, but long since outgrown. From his New Jersey Dutch ancestry—the family came over with Peter Stuyvesant and settled along the Hudson—he acquired a rather more than adequate supply of given names at the outset, but most of them have been discarded until his signature today carries only a single initial.

With Mrs. Van and their seven-year-old son Peter, he lives in Maywood. In that hospitable home he has entertained a good many of the "big names" in flying, but in the free and easy camaraderie of the airmen, they are accepted as just so many swell fellows, as they would wish to be.

He is a confirmed and discriminating pipe smoker, and keeps an arsenal of fine briars close at hand beside his desk and at home. A strong swimmer since boyhood days, he still rates that as his favorite summer exercise, and turns to active outdoor winter sports when the snow flies. He is also an enthusiastic fisherman, and for several years has gone regularly to the lake country of northern Wisconsin with rod and line.

His confidence and enthusiasm for his chosen field are contagious. He doesn't go in for predictions on progress and developments in air transport, being thoroughly occupied by the immediate job to be done. But that job is definitely looking to the future, and as practical aviation comes closer to technical perfection and public acceptance with each passing month, it is due in no small measure to the realistic and conscientious efforts of men like Van, who sit at the controls in the laboratory and office, as well as to those who sit in the pilot's seat.

—S. F. H.

THE MARKET PLACE



A quick review of the market noting major developments in supply, demand and prices of selected basic commodities

Supply

BURLAP

STOCKS OF BURLAP AT CALCUTTA rose to new record levels in January, and are still increasing. U. S. stocks at the turn of the year amounted to 312 million yards, 211 million of these being spots and the balance afloat. This is equivalent to slightly more than five months' supply. Though still above normal, it is the lowest total in fourteen months, and gradually declining.

COAL

OUTPUT OF BITUMINOUS COAL was down to $7\frac{1}{2}$ million tons per week as the year opened, but recovered to the December pace of 8 million tons in the second half of the month. A steady expansion of operations through the first quarter is expected, following the general pattern of last winter, accentuated by greater current requirements and by stocking in anticipation of the wage parleys due next month. Both industrial and yard stocks are relatively low and are due to be increased during the quarter.

COPPER

JANUARY STATISTICS REVEALED a sharp increase in copper stocks, both domestic and on a world basis. U. S. supplies were up 20,267 tons in December to 289,755, while foreign stocks advanced by 12,364 tons. This was particularly disappointing in view of the practical equilibrium attained a month earlier. The immediate effect has been a downward revision of production programs on the part of all leading American producers.

COTTON

CHIEF INTEREST ON THE SUPPLY side of the cotton market is the proposal for government liquidation of 11 million bales of loan cotton which hangs heavy over the market. To accomplish this without demoralizing prices, further crop reduction is proposed, turning back to growers an amount of cotton equivalent to the reduction in output.

Demand

DOMESTIC CONSUMPTION WAS UP 2 million yards in December to 60 million yards for the month. Demand has been of a routine nature, but there is active speculative buying in the primary market, induced largely by a heavy demand for sandbags in the armament program.



FUEL REQUIREMENTS ARE BEING revised upward in several major industrial lines, particularly in steel, utilities and chemicals—a situation which shortens the coverage of present stock piles and is likely to accentuate buying interest as a policy of longer coverage is adopted. For the present, the situation is well in hand, and reports of threatened shortages are liberally discounted.

FOR THE THIRD SUCCESSIVE MONTH, copper sales in January were at a merely nominal level, around 15,500 tons. Consumption meanwhile has held to a good rate, estimated as three times the volume of metal sales, and if the estimate of consumers' stocks is accurate—as about six weeks' supply—those stocks will have to be replenished soon. But buying interest is thoroughly routine, strongly resisting the current price.

DEMAND FOR COTTON GOODS did not maintain the accelerated pace of December, but was well diversified and in fair volume. The situation is compounded of a real requirement for goods, offset by general timidity on the part of distributors and users. The latter point is easily understandable in view of the unsettled state of raw cotton.

Market

PRICES WERE STRONG IN JANUARY, continuing the upward movement of the previous month but with more sharpness and definitive trend. Spot prices on standard constructions were up 30 points and firmly held at the higher level despite a statistical position that has been none too favorable for many months past.

WHILE SLACK PRICES WERE quoted somewhat lower in January, the general trend of the coal market was distinctly firmer. Pennsylvania low volatile was up 5 to 15 cents a ton during the month. The National Bituminous Coal Commission is now making more rapid progress, though it is doubtful that any minimum price schedule will be approved before the new wage agreement. Proposed prices for the Fairmont and Alabama fields have been approved for purposes of coordination, and hearings on the general schedule are to be opened this month. A Supreme Court decision on January 30 permits publication of sales and production cost data.

DESPITE THE GYRATIONS OF FOREIGN copper prices, which ranged from $\frac{3}{4}$ to $1\frac{1}{4}$ cents below the domestic quotation, the figure of $11\frac{1}{4}$ cents held through January. The market tone was weak on the statistical returns and on the drop in the security market, stronger as curtailment of production went into effect, but through all this changing scene the price was unaffected. At the turn of the month the situation was still a stalemate between demand and price.

COTTON PRICES WERE VERY SENSITIVE within a relatively narrow range during January, and finished the month with another moderate decline and little evidence of strength to reverse the trend. Prices on cotton textiles were likewise down, the decline amounting to $1\frac{1}{2}$ cent per yard on standard constructions of print cloth and sheeting.

Supply

IRON and STEEL

THE RATE OF STEEL OPERATIONS covered only gradually in January, suffered a slight recession toward the end of the month, and then went on to 52.8% at the close, 8 points below the rate of two months earlier. Present indications are for a continuation of this trend and an average of perhaps 55% for the first quarter. The activity is well diversified both geographically and as to product, with both light and heavy items participating in the advance.

Demand

WHILE CONSTRUCTION, RAILS and armament all contributed to January demand for steel, the major support came from the automotive industry, where schedules have been stepped up, leading to an increased interest in larger tonnages and forward purchasing. New orders for steel were up 20% from December, somewhat less than a normal seasonal advance. Tin plate operations offer the most promising field for expanding demand.

Market

STEEL PRICES WERE UNCHANGED. Costs were reduced by a markdown of \$12.50 per ton on ferro-manganese, \$0.75 per ton on silico-manganese, and 1/4-cent per pound on manganese briquettes, all essential elements in steel production. Labor costs were advanced in many cases by the fixing of minimum wages under the Walsh-Healey Public Contracts Act, ranging from 62 1/2 cents per hour in the North to 45 cents in the South. No price advance is planned for the second quarter unless the operating rate should unexpectedly go above 60%.

LUMBER

THE INVENTORY POSITION in lumber is quite favorable—stocks about 6% lower than a year ago, and unfilled orders 35% higher. Production is substantially higher, and expanding, the schedule being well sustained by current orders. Northern pine and hardwoods have been exceptions to the general upswing.

BOTH SHIPMENTS AND NEW orders were in excess of January production. The outlook for residential construction is excellent, and there is a good demand for replenishment of yard stocks, which were low at the year-end inventory. Prices are regarded as in a buying zone.

LUMBER PRICES ARE FIRM, and the tendency is distinctly though moderately upward, with further advances in prospect if present demand shows any appreciable improvement. Southern pine was up 1 1/2% in the month, to \$23.57 per M ft.

NAVAL STORES

WITH PRODUCTION AND MARKET receipts of naval stores at the low point of the crop year, holdings of both rosin and turpentine at the southern markets were reduced by fair shipments during January, and offerings were generally restricted. Stocks of rosin at Savannah and Jacksonville were down 2 1/2% to 584,894 barrels and turpentine stocks down 8 1/2% to 93,622 barrels. The situation has improved materially over the past two months, but government stocks are still heavy over the market.

DEMAND, WHICH HAS BEEN sluggish for many months past, showed some improvement in January, and is considered reasonably satisfactory for this season of the year. The jobbing trade has been more active, and spring requirements of the paint and varnish trade are being felt.

THE PRICE OF TURPENTINE advanced strongly for a net gain of 3 1/4 cents per gallon during January. The trend in gum rosin was mixed. Medium grades were strongly up by 55 to 70 points; fine grades moderately up 10 to 15 points; and common grades down 10 to 20 points. Wood rosins were off about 5 points. Sellers were for the most part in a firm position, and not interested in making sales at any price concessions.

PAPER

PAPER PRODUCTION SHOWED STRONG recovery in January after the holiday lull, and got back above November levels. The recovery in paperboard operating rates was a little slower, but the trend in this division is also strongly upward. Stocks of newsprint continue above normal, both at the mill and in the hands of consumers, but the ratio is improving with better demand. Stocks of pulp are piling up at terminals.

DEMAND FOR PAPER IS IMPROVING gradually, in line with the index of general business activity. The market tone is one of moderate optimism, but sales volume has not increased substantially as yet. Newsprint consumption is higher. Demand for pulp and waste materials is light.

THE PRICE STRUCTURE ON FINISHED papers is generally firm to strong, but weak on paper materials. The dual price of \$48 and \$50 per ton on roll newsprint still maintains. Quotations are down on old rope and waste papers. Chemical pulp prices are very soft, though nominally held, and the market on foreign rags is strictly nominal.

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Supply

PETROLEUM

PRODUCTION OF CRUDE OIL was fairly steady in January at slightly more than 3,200,000 barrels daily average. Stocks of petroleum products are in a better position, distributors' stocks lower than normal. Crude oil reserves are the highest in history.

RUBBER

U. S. STOCKS OF CRUDE RUBBER at the turn of the year were down to 245,413 tons, the lowest figure in 13 months. Exports from several producing countries have been considerably in excess of quotas, a fact which the Regulation Committee must recognize at its forthcoming meeting, where some more liberal quota for the second quarter seems assured.

TIN

AN INCREASE OF 3,686 TONS in world stocks of tin during January brought the supply up to 34,240 tons (23,216 of so-called visible stocks, plus carryover)—the largest total in several years, not excepting 1937 when steel was operating at 90%. A large part of this is held in the buffer pool, to be released only when prices get up around 50 cents. U. S. deliveries in January amounted to 4,330 tons, the best since October.

ZINC

PRODUCTION OF ZINC ORE was not heavy in January, but stocks rose sharply from the inventory period low of 9,300 tons to 15,435 tons. Production of slab zinc was down as several plants were closed, accounting in large measure for the accumulation of ore.

Demand

DEMAND WAS SATISFACTORY, with fuel oils seasonally in the most active position. The Bureau of Mines estimate of February requirements is down 1 1/2% from January, and practically in balance with current production.

DOMESTIC CONSUMPTION IS AT a good rate. Though the total for 1938 was down 24.3%, the final quarter was 29.3% ahead of the corresponding period of 1937, and that pace is being carried over into 1939. Tire production in December was up 13% from November, and reached the highest figure in 18 months, while inventories were 18.2% lower than a year ago.

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Here's the inexpensive way to help keep employees on the job—and off the sick-list. For the Onliwon service checks the spread of contagious disease.

Towels and Tissue are both dispensed from locked, sanitary cabinets. Phone your local A. P. W. distributor, or write to A. P. W. Paper Company, Albany, N. Y.



Onliwon Towels and Tissue

The complete washroom service

Market

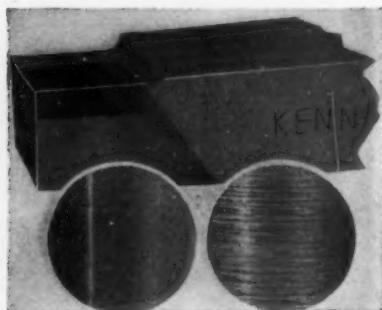
THE PRICE OF PENNSYLVANIA CRUDE (Bradford-Alleghany) was advanced on January 21st by 9 to 12 cents a barrel, the first increase since 1937, and a further advance of 8 to 15 cents became effective February 1. Corning oil was up 5 cents. Mid-Continent crude and retail prices showed no such strength.

THE SPOT PRICE OF RUBBER sagged below 16 cents at mid-month and showed little strength despite a relatively favorable statistical condition for this commodity. A sharp break in the closing week carried the quotation down 15 1/4 cents, and the figure of 15 13/16 at the end of the month represented a net decline of more than 1 1/2 cents.

EARLY IN JANUARY, TIN quotations advanced to 46.80 cents, then receded gradually. In the closing week there was a sharp drop in prices, briefly touching a low of 45.15 for spot metal. This was generally attributed to selling by speculators tired of holding a long position. There was a quick recovery, so that the month's loss was only fractional. At the end of the month, the future positions, normally commanding a premium, were selling at a discount.

THE PRICE OF 4 1/2 CENTS per pound, East St. Louis, was maintained in spite of a \$2 per ton cut in lead and some weakness in the London market. It is regarded generally as a very cheap quotation for this metal, and producers would show little willingness to sell for less.

NEW PRODUCTS & IDEAS

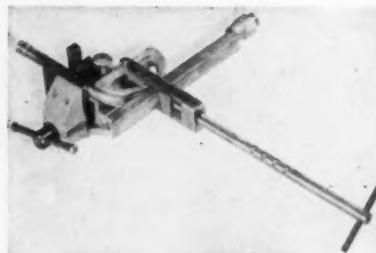


HARD CARBIDE ALLOY

No. 722

THIS NEW ALLOY, with a tungsten-titanium carbide base, is designed for machining tough metals such as steel heat treated up to 500 Brinnell, which combine roughing and finishing in one operation. It can also be used in machining monel metal, malleable iron, cast iron, brass, bronze, aluminum, etc. It is available in three standard styles of blanks, and also in an assortment of eighteen styles of ready-tipped tools for such operations as reaming, boring, tapping, milling, gauging, and the like. One of these tools is shown in the illustration, and the unretouched inserts (magnified three times) show the smooth finish of bar stock form-tooled with this alloy, compared with a surface machined with high speed steel or tungsten carbide. It permits cutting speeds 2 to 6 times greater than those of high speed steel, and 10 to 50 times as many pieces per grind.

Use coupon below



BENDING TOOL

No. 723

COPPER AND ALUMINUM TUBING up to $\frac{1}{4}$ " diameter can be bent, flared, swaged or cut by means of this new tool. The vise can be used in stationary bench mounting or as a

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portable arrangement. It is equipped with a pair of saw guides and a quadrant graduated to show the degree of bend. The bending head is also graduated to show the length of tube required to complete a bend of any given number of degrees. For flaring or swaging operations, a special attachment is mounted in place of the quadrant and bending head, the tools for this purpose being operated in connection with a lever operating screw. For cutting only, it can be used on tubing up to $2\frac{1}{4}$ " o. d.

Use coupon below

EXTENSION LADDER

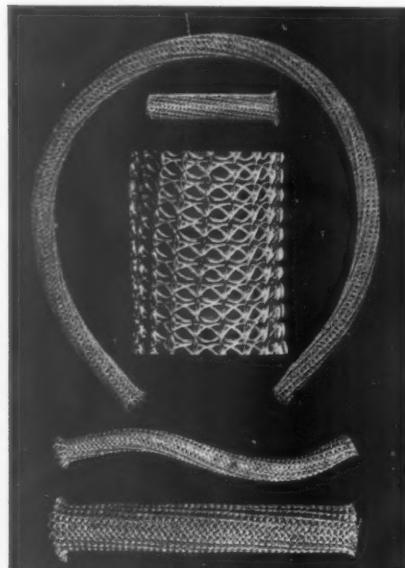


No. 724

FOR GENERAL EMERGENCY WORK, overhead inspection and small construction jobs, this extension ladder assembly is designed for bolting to the floor of a truck for easy portability and use at location. The ladder is in two sections, made of spruce and trussed with insulated steel rods. It is mounted on a rotating base, and balanced for one-man operation. It can be locked at any of six angles, and turns through 360 degrees, thus being exceptionally flexible in use.

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WIRE TUBING



No. 725

KNITTED FROM A SINGLE strand of wire, this seamless tube provides strength in tension, compression or torsion. It is adaptable to many uses such as protective coverings for extension cords, hose, equipment parts and fragile products such as glass; non-slip handle grips; and in the construction of special metal products. Depending on the gauge, mesh, and diameter, it

can be made either flexible or rigid, the latter designs being capable of bending and forming to any desired contour. The finished tube can be plated, rust-proofed, enameled, or coated, or covered with rubber, felt or fabric.

Use coupon page 62

OIL FIRED BOILER



No. 726

COMBUSTION EFFICIENCY IS ENHANCED in this new boiler by the flueless design and percolating action, providing positive and immediate circulation in the coil and resulting in quicker, cheaper steam. High stack losses have also been largely eliminated by means of a special jacketed insulated fuel saver, so that the last travel of the heat is utilized to heat the outside shell before being released to the stack. Complete with a pressure atomizing burner unit adapted to efficient burning of cheaper oils, and a combustion chamber of ample size and special design for complete fuel combustion. Soot and corrosion losses, and resulting maintenance costs, are likewise said to be minimized in this equipment.

Use coupon page 62

ALUMINUM PLATFORM LADDER



No. 727

WEIGHING ONLY 43 POUNDS, and equipped with casters on the back legs for easy moving from place to place, this platform-type ladder will easily support a load of half a ton and has many industrial applications, particularly in warehouses and stock rooms, where it helps to speed up the handling and storage of products on shelves and bins. Occupying a space of 22 X 28 inches at the floor, the ladder has a platform 22 inches square, 66 inches above the floor. Other dimensions are available to meet particular needs. Construction is of 51 S. T. Alcoa aluminum, having a tensile strength of 48,000 lbs. per sq. in., ruggedly riveted. It is rustproof, easily cleaned, and non-sparking.

"Quick Getaway" and **SAFE ARRIVAL** FOR STANLEY CAR-BANDED OIL DRUMS



As ONE end of car is loaded, the bands are tensioned around the drums and sealed tightly in a few minutes.

This shipper of oil is typical of the many who are buying quick loading and safe travel with Stanley Car Banding. And to each, the Stanley Car Banding System gives a bonus in the form of time and material saving!

VERIFIED PROTECTION COSTS LESS

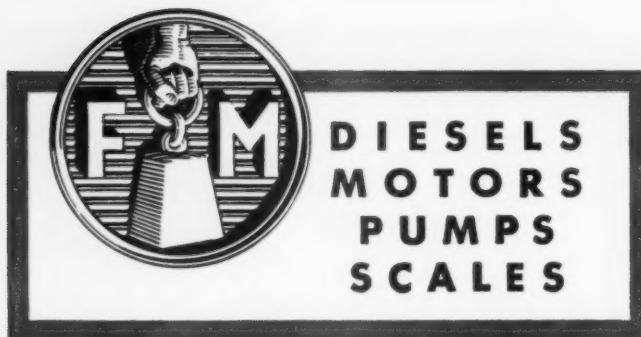
The protection afforded by Car Banding is verified by the Freight & Claims Division, American Association of Railroads. And the savings are verified by countless actual cases — banding costing a few dollars replacing wood bracing costing many dollars; three to four hours' labor replaced by a half hour's time with the Stanley System; dunnage reduced hundreds of pounds per car.

ELECTRIC MOTORS, ROOFING HOT WATER TANKS, CRATES . . .

There's a way to ship every one of them safely and economically with Stanley Car Banding. Many actual photographs of shipments and diagrams of banding methods used are shown in the Stanley Car Banding catalog. Write for your copy today, and let Stanley engineers develop a quickly-shipped load for your products. The Stanley Works, Steel Strapping Division, 144 Lake Street, New Britain, Connecticut.



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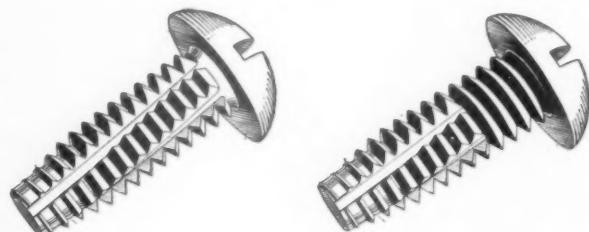
PROTECTIVE SHIELD



No. 728

A NEW PROTECTIVE SHIELD of thick transparent cellulose acetate has been developed for guarding the worker's face in light grinding operations, wood working, spot welding, etc. It permits clear vision in all directions, is light in weight, well ventilated, and large enough to fit comfortably over correction spectacles. Extending well back along the sides of the face, it provides ample protection, and is easily thrown back out of the way when not in use. The shields are available in clear, amber or green transparent cellulose. The adjustable molded rubber headband and other parts are easily replaceable.

Use coupon page 62



THREAD CUTTING SCREW No. 729

SPIRAL GROOVES RUNNING lengthwise of the threaded shank of these hardened self-tapping screws serve the dual purpose of providing multiple cutting edges and leaving an adequate area for chip removal, thus eliminating possible thread injury or clogging of grooves, and assuring a free and smooth cutting action. There are two types. One has the spiral grooves for the full length of the shank, a design that has been especially effective in overcoming the difficulties formerly encountered with brittle materials like cast iron and plastics. The other has a fully threaded section directly under the head, slightly greater in diameter than the tapping portion, providing a superior friction contact effective for applications where excess vibration is a factor.

Use coupon page 62

ODORLESS PAINT

No. 730

THE ELIMINATION OF OBJECTIONABLE turpentine and oil odors in this new but thoroughly tested line of paint products not only overcomes a serious personal distaste usually associated with redecorating, but has definite and important advantages in industrial applications. There is no danger of contaminating food products, and no need of special protection of such commodities during painting in packing houses, dairies, ice cream and candy factories, hotels, etc. There is no curtailment of working time and no disuse, even temporary, of the rooms being redecorated, a feature of special importance in public buildings,

factories, restaurants, hospitals, and the like. It is claimed that only the person actually doing the work is conscious that there is painting being done; the spectator cannot detect it. It is also important that painting can be done at any time during the year, and is not confined to the summer season when windows may be open. The line is a comprehensive one, including gloss, flat, egg-shell and undercoat paints, enamels, floor and trim varnish. It is of uniformly high quality, with good covering and wearing properties, meeting every requirement of the craftsman, is unaffected by moisture, washing compounds, acids or ammonia fumes, and dries to a hard surface in approximatley eight hours.

Use coupon page 62



**POSTAGE
SCALE**

No. 731

THIS DIRECT READING postage scale adds to mailing room efficiency by giving an instant calculation of the precise amount of postage required, showing on the face of the scale as a single bold figure, illuminated and magnified. There is no confusion arising from any complicated visible chart or swinging indicator, no computations by the operator, and no possibility of misreading. The package is placed upon the platform, a button indicating the zone of destination is depressed, and only the one proper figure appears. The shutter closes automatically after each weighing. Maximum speeds are attained when the scale platform is positioned close to counter level, or in connection with a conveyor belt, thus eliminating lifting and allowing the packages to be handled smoothly and in rapid succession. In addition to these factors of speed and convenience, the scale cuts down the waste resulting from over-postage and eliminates shipping delays due to wrong amounts. Built to high standards of accuracy, with permanent levelling adjustment and thermostat compensation for changes in temperature. The platform measures 13 X 16 $\frac{1}{4}$ inches; reading scale is always in full view regardless of size or shape of package; capacity to 70 pounds 2 ounces.

Use coupon page 62



MODERN DESK

No. 732

ATTRACTIVELY MODERN APPEARANCE, practical and efficient design, and sturdy, enduring all-steel construction are combined in this new line of desks for executive and general office use. Many well considered details add to satisfaction in their use. They are easy to clean around; have recessed back



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New
MALLEABLE IRON BASE
for GREATER SERVICE
and Safety!

Simplex introduced the major improvements in Screw Jacks—Simplex now introduces the Malleable Iron Base. Now you get greater protection than ever against breakage from rough handling; greater safety; reduced weight; at no extra cost!

Other exclusive features include: self-leveling drop forged cap with 9° float; safety peep-hole in base to prevent turning screw out too far; faster raising and lowering with 88% less friction because of the centralized ball bearing.

Write for bulletin on Simplex Malleable Iron Base Screw Jacks or catalog covering the most complete line of the sturdiest, most efficient screw, lever and special jacks made.

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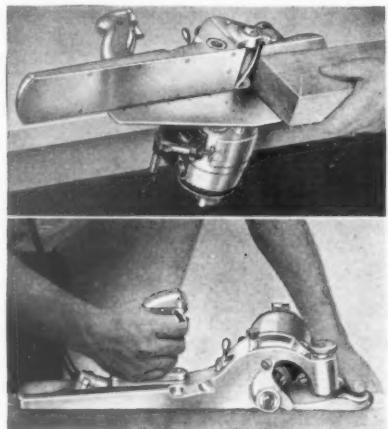
SIMPLEX
GOLD MEDAL AWARD SAFETY JACKS

panel giving ample knee room front and back without sacrificing the appearance of a closed-back desk; the drawers are suspended on progressive ball-bearing roller-cradles for finger tip action, and are stopped against rubber cushions; the top is of black linoleum, with binding of satin finish stainless steel.

Use coupon page 62

ELECTRIC
PLANE

No. 733



POWERED WITH A 1 hp. motor, and fitted with spiral cutter turning 18,000 rpm., this 2 1/2" plane has micro adjustment for a paper thin cut up to 3/16" deep in soft wood, leaving a smooth, waveless surface with or across the grain, and without splintering out the edges of the work. Furnished with an adjustable bracket, it can be instantly converted into a high speed joiner, accurately planing bevel cuts up to 45°. By means of a grinding attachment, the plane sharpens its own cutter.

Use coupon page 62

ROTARY
EDGER

No. 734



SEVERAL NEW FEATURES are incorporated in this new model rotary edge sander, which is available in 7" and 8" sizes, making the equipment exceptionally convenient and effective. There is a built-in floodlight that illuminates the working area, especially desirable in dark corners, closets, stairs, etc.; an adjustable caster that prevents the electric cable from getting under the machine and gouging the work; large, easy grip handles; flat top so that the machine can be stood on its head for changing discs; power in excess of rating, thus preventing all possibility of stalling; a specially designed dust intake extending around three-quarters of the sanding disc and making it practically dustless in operation. The sanding disc runs at a speed of 3,000 rpm.

Use coupon page 62

High Test Cast Iron

(Continued from page 36)

a higher strength iron, or by somewhat increasing the thickness.

It is interesting that two irons with similar chemical compositions may differ widely in properties. The question is: Why is one iron superior to another?

While a great deal depends upon how the foundry is operated, it has been observed that much also depends on the form in which the various ingredients are added to the molten metal as well as on the time when they are added.

While the manner in which cast iron is made may seem immaterial to many who purchase such materials, it is generally a fact that the most dependable castings are those made by adding manganese and part of the silicon in the form of briquetted alloys to the cupola, while some silicon addition is also made to the ladle. The necessary uniformity, the desired chemical composition, and the requisite strength and soundness are more readily obtained when the foundryman uses briquets and ladle additions in this manner. When buying gray iron, the purchasing agent will make no mistake if he orders cast iron that has been made by foundries operating in accordance with these recommendations.

The use of briquets makes it possible for foundrymen to use high-scrap charge mixtures, which are low in carbon. Low-carbon cast irons made from such mixtures have unusually high strength and good, dense structures.

Another way for purchasers to save money in the long run is to devote some attention to the matter of alloying additions. When strengths beyond that obtainable in plain high-test cast iron are required, small additions of what are known as "carbide-forming" elements—such as chromium, molybdenum, or vanadium—will usually do the trick. Chromium, being relatively inexpensive, is usually used. Although chromium is exceedingly effective by itself, superstrengths can be imparted by using another element, such as molybdenum or vanadium, in conjunction with the chromium to emphasize its desirable characteristics.

The hardening influence of the carbide-formers can be readily controlled so as to preserve the machinability of the iron without impairing its strength. This is accomplished by balancing the chromium with suitable amounts of "graphitizing elements," such as silicon, copper, or nickel. The silicon, of course, is most commonly used because of its comparatively low cost.

The most important points to remember about high-test cast iron are the following:

1. High-test gray cast irons are available at a reasonable cost.
2. The use of high-test cast irons will usually effect savings in the long run.
3. The most dependable high-test gray irons are usually made with the aid of briquets.
4. The high-test cast irons of greatest strength

PREVENTION IS WISER THAN CURE



WILLSON RESPIRATORS

Are Scientifically
Designed For
Health Protection!

A Chinaman does not pay his family physician to take care of him when he is sick or injured. Instead, he gives him a regular salary when he is in good health so that the physician will keep him well.

In this country, alert operators insure their workers against injury and diseases through a well-organized safety program which includes personal protective devices.

Willson offers industry a choice of ten U. S. Bureau of Mines Respirators and a wide assortment of Goggles, Welding Protective Equipment and Industrial Scientific Instruments. Write for Free Catalogue.



No. 750 Respirator

The Willson Dual Disc Respirator No. 750, illustrated above, bears U. S. Bureau of Mines Approval No. 2119 for protection against Type A or Nuisance Dusts and U. S. Bureau of Mines Approval No. 2125 for Lead Dusts.

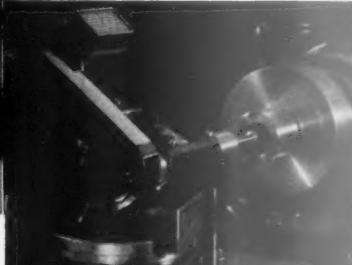


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- Lightweight for easy portability.
- Spindle speeds to 42,500 r. p. m.
- Wide selection of quills.
- A size of grinder for every lathe.
- 25 years' grinder specialization.



No. 5 "Master" Grinder with its 12 quills. At right this versatile tool is in action.



When you get a Dumore, you get more than one or two special features. For 25 years Dumore engineers have painstakingly developed and improved each part as if it were the most important in the entire grinder assembly. That's why Dumores maintain a precision of .0001" long after ordinary grinders have reached retirement.

Let Dumore tackle your toughest grinding problems. See how you can save time and expense. Ask your distributor or write the factory for a demonstration... and 1939 catalog. No obligation.

The Dumore Co., Dept. 359-B, Racine, Wis.

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PRECISION GRINDERS

Rough out LARGE HOLES



Saves tedious hours of costly machining—by roughing out large holes (die plates, castings, etc., etc.) on drill presses with MARVEL High-Speed-Edge Hole Saws. These new type hole saws with a genuine 18% Tungsten High-Speed-Edge electrically welded to a tough shatter-proof alloy steel body, high-speed centers and heavy arbors have the strength to withstand the terrific peripheral strain developed on high-speed drill presses and the "set" for deep drilling (to 1 1/4" in steel).

Write for name of nearest distributor.



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Just try Barnes Blades! Tell us your cutting problem—let us suggest a blade to whip it economically.

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THREE POPULAR PRICED
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B. & O. Motor Coaches stop at our door.

HOTEL McALPIN

BROADWAY AT 34th ST., NEW YORK
Under KNOTT Mgt. John J. Woelfle, Mgr.

are made by the use of properly balanced amounts of various alloying elements such as chromium, nickel, molybdenum, and vanadium, alone or in combination with each other.

Competition is More Effective than Barter

The current report of Henry Chalmers, Chief of the Division of Foreign Tariffs, Department of Commerce is largely devoted to the effects of the barter trade program of Germany, and efforts of countries on an open competitive basis, such as the United States and the United Kingdom, to combat it. He finds that companies operating on the competitive basis still carry on 70% of the world's commerce, with the United States and United Kingdom representing markets for close to 30% of the total international trade.

"Despite the spread of German barter arrangement," the report states, "analysis of trade records finds that the relative recovery in the value of German exports from the depth of the depression has not been as great as that of either the United States or the United Kingdom.

"Reports from various countries with which Germany and others have made these special arrangements carry frequent expressions of local dissatisfaction with commercial results, and with the pressures and uncertainties that often accompany them. The governments of a number of countries are reported to be endeavoring to avoid building up by their nationals of an excess of sales to Germany above the value of their purchases from that country, so as to minimize accumulation of frozen credits at the Reichsbank or of 'askimarks' in the hands of their own banks, with consequent necessity of taking German products of a type not normally desired or in quantities beyond current consumptive needs of their countries.

"Discovery that a portion of some of the products taken under these barter arrangements have afterward been resold by Germany in third countries for free exchange, thus interfering with other usual markets of original producing countries, while forcing them to take the full value of shipments to Germany in German goods, frequently upon disadvantageous terms, is accentuating reluctance to expand such barter arrangements when any other outlet can be found.

"During the latter months of 1938 there were evidences of a distinctly stiffening attitude on the part of a number of leading countries operating on an open and competitive trade basis to check or offset undue extension of the opposite type of trade policy.

"Distinct progress was made during 1938 by a number of countries toward more liberal conditions for foreign trade exchanges, particularly on the part of members of the British Empire. In some other countries, there was a distinctly tightening tendency in governmental plans for control of their foreign trade."

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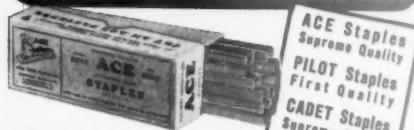
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NON-STICK
An Entirely New and
Different Pen and
Pencil

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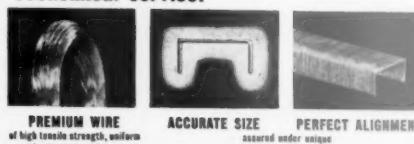
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HOWARD F. HOHL, Mgr.

ADELPHIA HOTEL

CHESTNUT
AT THIRTEENTH ST.
PHILADELPHIA

Steel Markets

(Continued from page 23)

ing his plant on some flimsy technicality, actually because market prices had gone against him. Scrap dealers, in turn, might place worthless scrap on the bottom of each car and only a thin layer of good scrap on the surface, bribing steel company officials who had bought the scrap to accept it. Such dealings are pretty well out of the picture today.

Nowadays when railroads open bids from dealers on the scrap they sell, they often invite interested parties as well as neutrals to be present at the openings to insure fair play. Even so, there is still much "poker playing," which is perhaps harmless enough, in dealings in steel scrap.

Thus in late November, 1938, the representative of a foreign government was negotiating for large tonnages of American scrap. The dealers were not offering at prices which he deemed low enough. Finally the would-be buyer intimated to the business newspapers and trade journals that he had purchased upward of 150,000 tons of scrap. Actually he probably had not bought half that amount. The buyer, however, intended to frighten those who had not come across with low prices into fearing that purchases had been completed with them left out in the cold. But the dealers knew a full house from three of a kind.

Previously we stated that when steel operations are 55% or better, steel markets are apt to be strong, and *vice versa*. Of course this is a general observation with room for plenty of exceptions. Moreover one must realize that mere tonnage and operating rates are not the criterions they were a decade ago. Steel becomes more and more a quality metal, lighter in weight and yet stronger despite its lightness. A steel company may be making better profits today at 60% operations than ten years ago at 80%, because the steel is more highly alloyed, has a higher selling price and better profit margin.

There is a tendency today to keep prices unchanged longer than a decade ago. It has been learned that stability at moderate profit proves better in the long run than spectacular profits for a short time and then general unsettlement and losses. Again, it costs thousands of dollars to make a general price change. Thousands of "extras" for quantity, quality, etc., differentials have to be figured out and published in pamphlet form, requiring much labor and printing expense.

Purchasing agents have doubtless already found steel makers a princely bunch of chaps with whom to transact business. The best American business traditions are carried on in the steel industry. Our hardiest forefathers entered the iron business, men of courage, wisdom and big-heartedness. Their sons and grandsons carry on. One finds very few foreign-sounding names among the steel company officials. Girdler! Grace! Good American names, or I'll eat a 4 X 4 billet!

They will treat you right, but you purchasers know that.

FREDERICK W. SCHMIDT has been named purchasing agent for the Olympia (Wash.) Brewery Co., succeeding Joseph Speckart, deceased.



Only
WIREGRIP
Belt Hooks
have the blue
Aligning Card
that holds
hooks in position, prevents them
from loosening, prevents hook loss
from handling, prevents waste of
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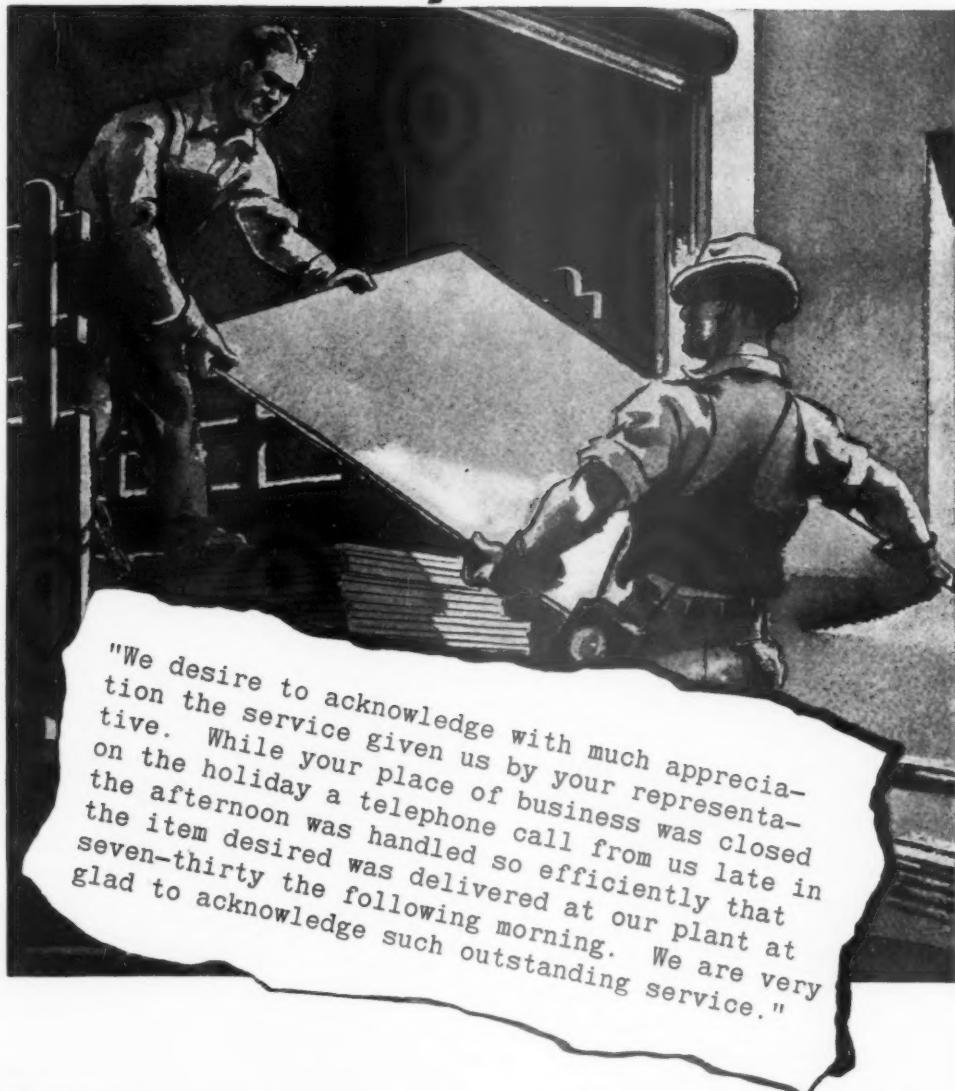
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 GRINDERS
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 CLAMPS, BOILERMAKERS
 CLIPS, PATTERSON
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THIS letter from a customer in our Boston Warehouse territory is typical of many we receive. And we like to get them. But as a matter of fact there was nothing really unusual about this example of Scully Service. Prompt, friendly service is the rule on every order.

Thousands of users know that when they want steel it pays to call Scully. All eight warehouses carry a huge stock

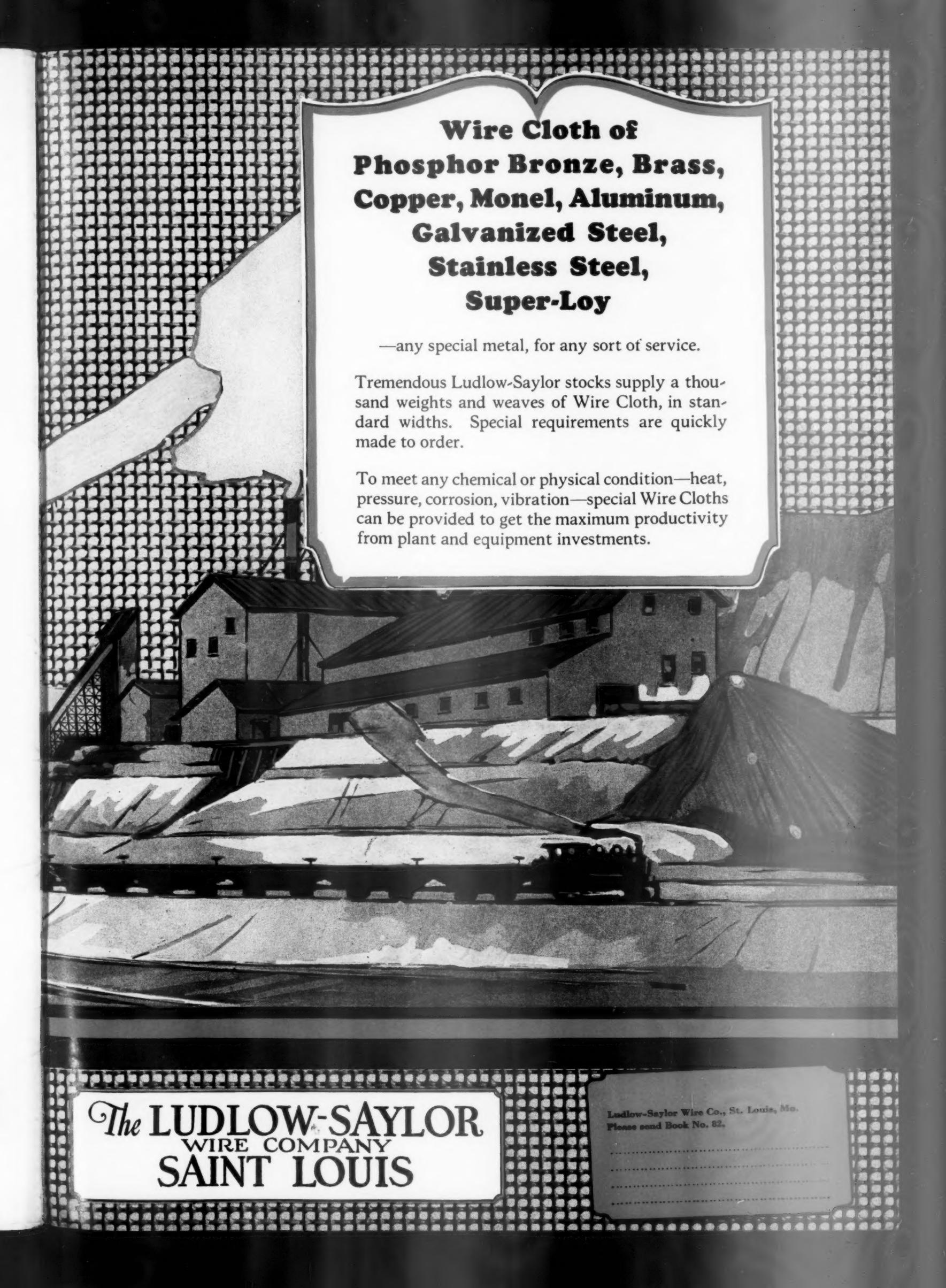
of steel, steel products, copper and brass. Each warehouse operates on the principle that customers want their materials prepared and shipped at once. And when you say, "Rush," we know you mean it.

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Distributors of Steel, Steel Products, Copper and Brass
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—any special metal, for any sort of service.

Tremendous Ludlow-Saylor stocks supply a thousand weights and weaves of Wire Cloth, in standard widths. Special requirements are quickly made to order.

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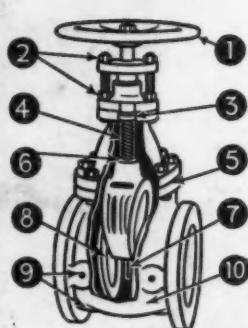
Look at the pictured Jenkins Iron Body Gate Valve. Put your finger on the featured parts

that makes it better. Stack them up, one by one, against any test. You'll find them reasons for selecting Jenkins Iron Valves for every plant requirement.

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- 7 Self-Aligning Wedge Guides
- 8 Renewable Bronze Seat Rings
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Guide to Figure Numbers of Jenkins Inside Screw Iron Body Gate Valves

TYPE	125 Lbs. W.S.P.		175 Lbs. W.S.P.		250 Lbs. W.S.P.	
	Scw.	Fig.	Scw.	Fig.	Scw.	Fig.
Solid Wedge . .	325	326	251	255	203A	203
Double Disc . .	872	873	—	—	876	877

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